Ministry of
Water, Land
and Air Protection

2001/02
Annual Report
A New Era Update

**Ministry of
Water, Land
and Air Protection**

National Library of Canada Cataloguing in Publication Data
British Columbia. Ministry of Water, Land and Air Protection.
Annual Report. — 2001/2002 -

Annual.
"*A New Era* update".
Also available on the Internet.

ISSN 1703-3802 = Annual Report - British Columbia. Ministry of Water, Land and Air Protection
Continues in part: British Columbia. Ministry of Environment, Lands and Parks. Annual report.
ISSN 1195-4825.

1. British Columbia. Ministry of Water, Land and Air Protection - Periodicals. 2. Environmental policy - British Columbia - Periodicals. 3. Environmental protection - Government policy - British Columbia -Periodicals. 4. Ecosystem management - Government policy - British Columbia - Periodicals. 5. Parks - Government policy - British Columbia - Periodicals. I. Title. II. Title: Ministry of Water, Land and Air Protection ... annual report.

HD319.B7B74 354.3'34'0971105 C2002-960132-0

For more information on the British Columbia Ministry of Water, Land and Air Protection contact:
Communications Branch
PO BOX 9360
STN PROV GOVT
VICTORIA, BC
V8W 9M2

or visit the B.C. Government's Web site at
www.gov.bc.ca

Published by the Ministry of Water, Land and Air Protection
2353-2

Introductory Note — A Year of Transition

The Government of British Columbia and its ministries are committed to reporting on performance. The *Budget Transparency and Accountability Act* (BTAA), as amended in August 2001, provides the legislative framework for a regular cycle of planning, reporting and accountability. Under the BTAA, ministries are responsible for producing three-year service plans (previously called performance plans), which are updated yearly, and annual service plan reports (formerly called performance reports). The amended BTAA takes effect beginning with the 2002/03 fiscal year. The first three-year service plans, covering the period 2002/03 to 2004/05, were released with the provincial budget on February 19, 2002.

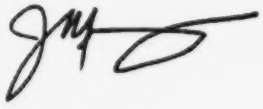
This annual report relates to the previous fiscal year, covering April 1, 2001, to March 31, 2002. This was a transition year, with a new government sworn into office on June 5, 2001. On that day, there was an extensive reorganization of ministries, which were given significant new policy direction and tasked with the responsibility for implementing the government's *New Era* commitments. Later in the year, ministries proceeded through the core services review, which refined the mandates of ministries and identified the strategic shifts required to move government toward its long-term objectives.

This report provides an update on all that activity and also provides a report on performance, approaching the model provided by the BTAA as closely as is possible in the circumstances. An annual report would normally relate back to a preceding plan and report on the results achieved compared with the intentions outlined in that plan. In this case, the preceding plan was produced before the adoption of the significant changes outlined above, and as noted, this ministry has been significantly reorganized, and policies and priorities have changed. This limits the extent to which performance information as described in the previous plan is useful.

Consequently, this report sets out the ministry's redefined role and the services it provides, and — within the context of its goals and objectives as they evolved through the year — describes the achievements of the ministry and the performance targets being used to measure success.

Accountability Statement

The 2001/02 Ministry of Water, Land and Air Protection Annual Report was prepared under my direction and I am accountable for the results the ministry achieved since June 5, 2001. This report describes progress made in this first year on the government's *New Era* commitments, which are to be addressed by May 17, 2005.



Joyce Murray
Minister of Water, Land and Air Protection

June 28, 2002

BRITISH COLUMBIA

Ministry of Water, Land and Air Protection

I am pleased to introduce this annual report on the work of the ministry in the months since its inception in June 2001.

The ministry has been charged with the responsibility of protecting the integrity of our province's water, land and air resources. Its clear mandate is to reduce pollution and the accompanying risks to human health; maintain and restore our province's natural biological diversity; and manage our parks, protected areas, wildlife and fish for all to enjoy.

We will do this by applying the highest environmental standards, by focusing on priority areas that are critical to environmental quality and the health and safety of British Columbians, by taking a science-based, principled approach to environmental management, and by fostering excellence in environmental stewardship across the province.

The ministry supports the government's broader vision of a strong and vibrant provincial economy, a supportive social infrastructure, safe, healthy communities and a sustainable environment. Much of the work documented in this annual report for 2001/02 has focused on fulfilling important environmental commitments under the government's *New Era* agenda and on achieving a number of established performance targets. The report is also complementary to the ministry's Core Review documents released during the year, and the ministry's three-year service plan released in February 2002.

I would like thank the ministry's dedicated staff, our colleagues in other ministries and public agencies, and numerous partners outside of government for the support they have given to these efforts during this transition year.

Joyce Murray
Minister

TABLE OF CONTENTS

Introductory Note — A Year of Transition

Accountability Statement

Message from the Minister

Year-at-a-Glance Highlights 3

Ministry Role and Services 5

Update on *New Era* Commitments 12

Performance Reporting 18

Report on Resources 46

Annual Report Appendices

Appendix A: Organization Chart 47

Appendix B: Legislation Administered by the Ministry 48

Appendix C: Affiliated Agencies, Boards and Commissions 53

Year-at-a-Glance Highlights

April 2001 – March 2002

2001

June

Under government restructuring on June 5, 2001, some functions of the then Ministry of Environment, Lands and Parks were streamlined, to better align the primary responsibilities for environmental protection and stewardship with the new Ministry of Water, Land and Air Protection.

At the first Open Cabinet, the new government confirmed British Columbia's commitment to work with the federal government towards creating a national park reserve in the Gulf Islands and approved $25 million for land acquisitions: $5 million for acquisitions for the new national park reserve and $20 million for provincial acquisitions on islands outside the national park reserve.

The Natural Heritage Agreement confirmed the funding allocations by the federal and provincial governments, the Greater Vancouver Regional District and the Corporation of Delta for the purchase of Burns Bog.

July

A blanket moratorium on grizzly bear hunting was replaced with regional moratoriums, and a scientific peer review panel was appointed to review and comment on grizzly harvest management practices.

August

British Columbia's request for intervenor status in hearings for the proposed Sumas 2 power plant was granted by the Washington State Energy Facility Site Evaluation Council.

A public report on manure management practices in the Fraser Valley identified a need to improve practices for dealing with manure and other agricultural wastes.

A preliminary review of seabed monitoring data in British Columbia's salmon aquaculture industry, including an inventory of waste management measures from 94 salmon farms, was released as a further step toward the development of new aquaculture waste regulations for fish farms.

September

An independent panel was appointed to review the *Drinking Water Protection Act* and make recommendations to government.

October

The ministry presented its new mandate to Open Cabinet as part of the government-wide Core Review process.

November

Eight individuals, organizations and businesses were honoured through the 2001 Minister's Environmental Awards for their efforts to protect British Columbia's environment and promote environmental stewardship.

December

An independent scientific advisory panel was appointed to review the requirement for zero AOX (Adsorbable Organic Halides) discharges at British Columbia pulp mills.

The Drinking Water Review Panel released its interim report.

The province announced that it will enter into an agreement with the Government of Canada to establish a national park reserve in the southern Gulf Islands (agreement to be signed in 2002), with the announcement including the acquisition of 640 hectares on Saltspring Island.

2002

January

New, comprehensive process for developing environmental standards and practices was announced, in preparation for a managed expansion of the salmon aquaculture industry in British Columbia beginning April 30, 2002.

February

The ministry's 2002/2003 - 2004/2005 Service Plan was released in accordance with the government's *Budget Transparency and Accountability Act* and developed in the context of the government's *New Era* commitments.

The Contaminated Sites Regulation was amended to improve the process for cleanups and provide updated human health standards based on the best available science.

A new Organic Matter Recycling Regulation was introduced, strengthening human health standards, eliminating costly permitting processes, and making British Columbia the first jurisdiction in North America to limit the use of recycled organic materials in drinking water watersheds.

The Grizzly Bear Scientific Panel issued its interim report.

The Drinking Water Review Panel released its final report for consideration by the government.

March

A report was released documenting climate change trends in British Columbia over the past century, as well as likely future changes.

The independent scientific advisory panel appointed to review the requirement for zero AOX discharges at pulp mills in British Columbia submitted its final report.

The government strengthened the GVRD's liquid waste management plan, with a list of requirements to enhance scientific evaluation and to protect the ecological health of Greater Vancouver's waterways.

Ministry Role and Services

British Columbia enjoys an exceptional wealth and diversity of ecosystems and natural resources. Together, they confer a wide range of economic, social and recreational benefits, along with a concurrent responsibility to future generations.

The Ministry of Water, Land and Air Protection was created by order of the Lieutenant Governor in Council on June 5, 2001. At that time, the government made its expectations clear: the new ministry would provide the framework, policies and guidance that will enable British Columbians to enjoy the benefits of world-class environmental management through a scientifically-based and principled approach to environmental issues that ensures sustainability, accountability and responsibility.

The Ministry of Water, Land and Air Protection plays an essential role in encouraging and supporting the efforts of British Columbians to maintain a healthy environment and the important benefits that accompany it — enhanced human health, sustainable economic development and a high quality of life. Prudent management and protection of the natural environment will help ensure that the benefits we enjoy today will be available for our children and grandchildren in the future.

Government Direction — Strategic Plan 2002/03 - 2004/05

The three year Strategic Plan is the guiding document for government. It is the umbrella plan under which the ministry's Service Plan aligns. The government's vision: "British Columbia is a prosperous and just province, whose citizens achieve their potential and have confidence in the future". Within the vision are three strategic goals: A strong and vibrant provincial economy; A supportive infrastructure; and Safe, healthy communities and a sustainable environment.

The ministry, like government, will operate in an innovative, enterprising, results-oriented and accountable manner. As such, the following managerial principles of government apply to the Ministry of Water, Land and Air Protection:

- High standards of accountability, consultation and ethics
- Focused and efficient delivery of government services
- Social and fiscal responsibility
- Open and transparent government
- An innovative and goal-oriented public service.

The government places a high priority on encouraging a strong, private-sector economy that maintains high environmental standards and displays exemplary environmental stewardship. This responsibility for environmental stewardship is shared across all government ministries.

A Year of Transition

Central to the many changes being experienced by all corners of government operations over 2001-2002 was the Core Services Review process. One of the results of this substantive government-wide exercise was a refinement of the services that the Ministry of Water, Land and Air Protection would provide to the public.

The Core Services Review Process

In common with other ministries whose mandate proceeds from recent government restructuring, one of the ministry's first tasks has been to develop the policies, plans and internal structures needed to carry out its new mandate and, concurrently, to improve its processes for environmental management and protection, monitoring and enforcement.

To that end, a small Mandate Implementation Team of senior staff was formed in July to provide advice on the functions flowing from the ministry's mandate and how to carry them out. By mid-August the team had completed a draft Policy Framework, which identified the ministry's vision, mission and goals; clarified its client service and public interest roles; set out guiding principles; described its core functions; and the strategic shifts, approaches and actions needed to perform its work effectively.

This work brought together a number of critical initiatives, including the government's Core Review, the ministry's legislative and regulatory reviews, and business reviews which had already begun in key program areas. It also formed the foundation of the ministry's new *Service Plan for 2002/2003 – 2004/2005*, released in February 2002.

The Core Review was carried out in two phases. Phase one examined the mandate of the ministry and the changes needed to deliver that mandate within the priorities established by government. In Phase 2, a detailed analysis of all aspects of the ministry's business and its related agencies was carried out to assess the effectiveness of the existing organizational and service delivery models, and identify opportunities for improved efficiency and accountability.

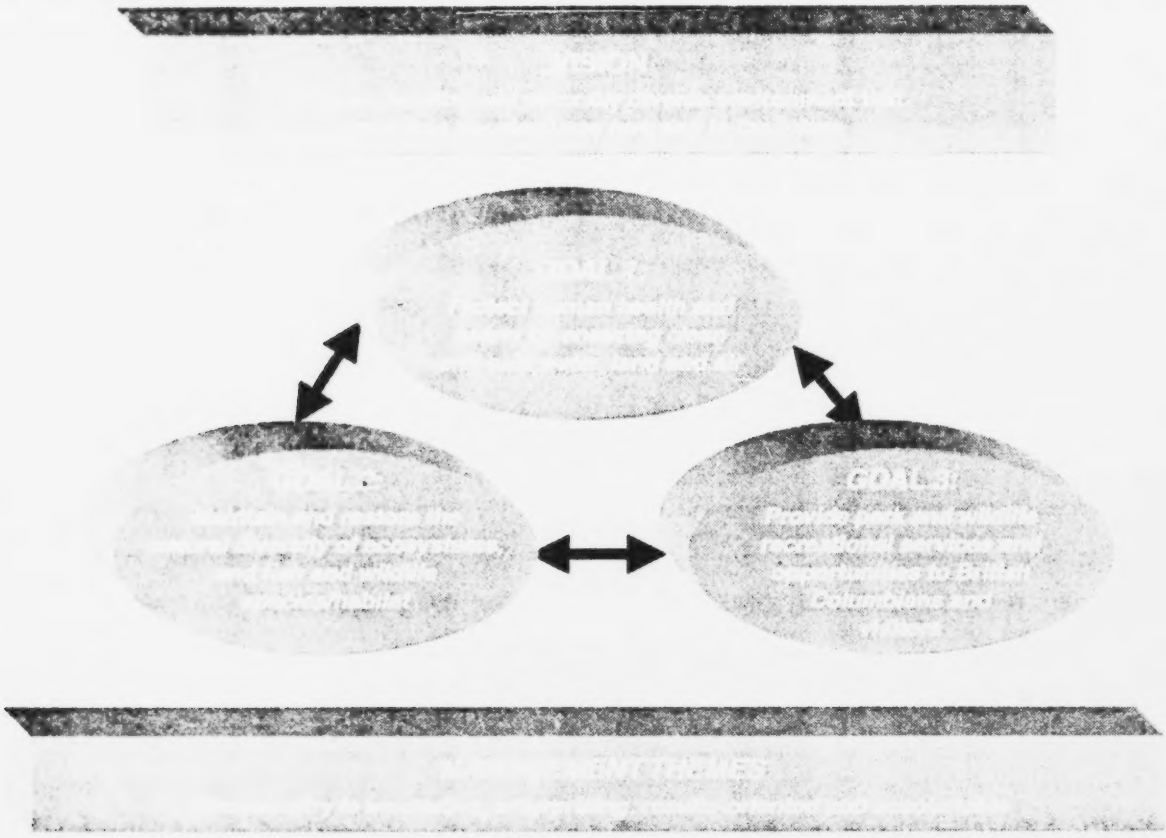
Strategic Shifts

The ministry's challenge is to achieve its mandate with substantially fewer ministry staff and funds. The Core Services Review Process assisted the ministry in affirming the shifts necessary over the next three years to realize its mandate. The ministry identified the need to change its business methods to reduce its own costs, reduce the costs incurred by those who must meet environmental standards, reduce conflicts and litigation, eliminate service backlogs and focus efforts in areas where there is the greatest risk to human health and the environment. These changes are intended to achieve continuous improvement in both the management of ministry resources and in the environmental quality of the province. These strategic shifts are outlined in Table 1 below.

Table 1 – Strategic Shifts in Water, Land and Air Protection

FROM	TO
Ministry as sole protector of the environment.	Shared stewardship – sharing responsibility for the environment with others as appropriate and emphasizing a ministry staff culture of client service.
Prescriptive approaches using prohibitions and controls.	Setting appropriate environmental standards, and ensuring standards are met
Unclear accountability for environmental results.	Clear roles for ministry, industry and other stakeholders in the gathering and reporting of environmental information and achieving environmental objectives.
Well-developed but single-focus ministry initiatives.	Integrated ministry program delivery based on best available science and an ecosystem-based approach.
Constraints on economic development.	Economic development that achieves reasonable environmental outcomes, with discretion as to how to achieve these outcomes.
Proprietary information belonging to government.	Public information made available in a transparent, timely and accessible manner

The New Ministry of Water, Land and Air Protection



Vision

The ministry's Vision is consistent with that of the broader government. The ministry's vision is a clean, healthy and naturally diverse environment that enriches people's lives, now and in the future.

Principles

The Principles drafted by the ministry following its reorganization in January 2002 were:

1. A sustainable environment is central to providing economic and social opportunities for all British Columbians.
2. A sustainable environment requires setting common goals and taking concerted action in partnership with all elements of society — government, business, industry and citizenry.
3. Strategic planning, well-defined outcomes, clearly established accountability procedures and transparent reporting on performance define our management model.
4. Science-based knowledge and risk-based priority setting informs our actions.

5. Ministry services focus on the needs of our clients and are delivered in a transparent, fair, timely and consistent manner.
6. Professional accountability and discipline characterize our behaviour.

Core Business Areas

The Ministry of Water, Land and Air Protection has three core business areas:

- **Environmental Protection** of air, water and land quality;
- **Environmental Stewardship** of biodiversity, including wildlife, fish and protected areas; and
- **Park and Wildlife Recreation** management, including hunting, angling, park recreation and wildlife viewing.

Goals and Objectives

The ministry's goals and objectives have been refined over the course of the year to guide ministry operations into the future. As stated in the *Ministry of Water, Land and Air Protection Service Plan 2002/2003 - 2004/2005*, they are in line with the above core business areas:

Goal 1: Environmental Protection — Protect human health and safety by ensuring clean and safe water, land and air.

- Clean Air and Climate Change — Limit air pollution and contribute to meeting global atmospheric objectives.
- Clean Water — Ensure safe, high-quality drinking water and reduce effluent discharges that impact water quality.
- Land Protection — Reduce/remove toxins and wastes that contaminate land.
- Environmental Emergencies — Readiness to respond to high-risk environmental emergencies.

Goal 2: Environmental Stewardship — Maintain and restore the natural diversity of ecosystems, and fish and wildlife species and their habitats.

- Species at Risk — Identify, protect and restore species at risk and their habitat.
- Wildlife and Wild Fish — Manage and protect fish, wildlife and their habitat.
- Habitat Conservation — Manage conservation in parks and protected areas system.
- Sustainable Development — Assist industry, local government and business to develop sustainably.

Goal 3: Park and Wildlife Recreation — Provide park and wildlife recreational services and opportunities to British Columbians and visitors.

- Hunting, Angling and Wildlife Viewing Opportunities — Manage/allocate fish and wildlife for angling, hunting and viewing, and provide wilderness recreation opportunities.
- Parks Recreation — Provide, through private operators, camping and day use in parks.

Organization, Roles and Responsibilities

Corporate Services

Senior Executive/ Senior Management Committee	**Planning, Innovation and Enforcement Division**	**Corporate Services Division**

Senior Executive

The role of Senior Executive is to provide strategic leadership for the ministry. The Deputy is accountable for the full range of the ministry's mandate. The Assistant Deputy Ministers (ADMs) are the operational heads of their Divisions. They are accountable for the delivery of the full range of the Division mandate from policy and program development to regional delivery. They are also accountable to ensure there is cross-division and interministry co-operation on areas of shared concern in environmental management.

Environmental Protection Division

The focus of the Environmental Protection Division is protection of human and environmental health.

Key objectives include:

- Improved air quality
- Effective action to reduce greenhouse gas emissions
- Improved surface and groundwater quality, including drinking water sources
- Renewed provincial framework for reducing/removing toxics and waste that contaminate land, air and water, and responding to high risk environmental emergencies
- Shared environmental stewardship

Environmental Stewardship Division

The role of the Environmental Stewardship Division is to develop, promote and measure achievement of provincial goals for the conservation of living resources, to manage protected areas, and to provide park and wildlife recreational services and opportunities for British Columbians and visitors.

Key objectives include:

- Manage and conserve the province's biodiversity
- Protect species at risk
- Protect and restore BC's watersheds
- Protect fish and wildlife species and their habitat
- Stewardship of parks and protected lands
- Provide park and wildlife recreation

Planning, Innovation and Enforcement Division

The Planning, Innovation and Enforcement Division provides corporate services that assist the ministry to deliver on its goals and objectives, achieve its strategic shifts and deliver on its commitment to improved planning and accountability.

The Division works closely with the other ministry Divisions and the Ministry of Sustainable Resource Management to ensure negotiated service agreements provide the required information systems operations to the Environmental Protection and Environmental Stewardship Divisions. The Division also manages policy and legislation, provides enforcement services, assists the ministry in developing partnerships with other government agents, business, industry and other nongovernment organizations and provides policy advice on the development and management of ministry trust funds.

Key objectives include:

- Improved planning, monitoring and reporting
- Sound policy and legislation
- Increased use of science, shared stewardship and improved sustainability in government
- Enforcement of environmental standards

Divisional Operations

The ministry has its headquarters in Victoria and most of its staff in regional offices across the province. There are nine regions in the province: Vancouver Island, Lower Mainland, Thompson, Okanagan, Kootenay, Cariboo, Skeena, Omineca and Peace. Regional staff of the three divisions are co-located to encourage co-operation and efficiencies. There are also small Area Offices in many locations across the province to provide a visible presence, enforcement and park operations capacity in local areas.

Staff will achieve ministry goals and objectives through the development of science-based policy, legislation, regulations, codes of practice, environmental contracts and covenants; setting standards (both ambient and for discharges and emissions); monitoring for achievement of standards; and, publicly reporting the results.

Ministry staff will also concentrate on building relationships with other ministries and agencies, business and industry, local government, environmental and stewardship groups, First Nations and others.

Corporate Services Division

The Corporate Services Division manages the finance and administration, human resources, information technology and internal communications support services for the agencies that it serves. In January 2002, the division began implementation of a shared services model for the provision of these services to the Ministry of Sustainable Resource Management, Water, Land and Air Protection, the British Columbia Assets and Land Corporation, the Environmental Assessment Office, and the Land Reserve Commission. The Division will also provide advice on integration with shared services government-wide.

The reader is directed to the forthcoming section on **Performance Reporting** for a sense of those ministry performance measures and targets aligned with the ministry's goals and objectives. The legislation requirements that help to define the responsibilities of the Ministry of Water, Land and Air Protection are outlined in Appendix B.

Update on *New Era* Commitments

The *New Era* document, which outlined the government's 2001 election policy platform, contained many far-reaching policy objectives. This section describes the ministry's progress in implementing key commitments confirmed by the government on taking office on June 5, 2001 in the following ways:

1. A *New Era* for British Columbia is the document in which the government laid out its future plans for the province.
2. The Premier's Letter of June 25, 2001, addressed to each member of Cabinet, elaborated on the government's goals and objectives and identified key projects for which each minister would be accountable.
3. Other Ministry Priorities beginning in 2001/02 as identified by the Minister.

1. A *New Era* for British Columbia

The *New Era* document commits the ministry to working with the Ministry of Sustainable Resource Management to adopt a scientifically based, balanced and principled approach to environmental management that ensures sustainability, accountability and responsibility. The longer term planning and restructuring undertaken to meet this goal and achieve the accompanying strategic shifts is summarized above in the section *Ministry Role and Services*, as well as in the ministry's Core Review and Service Plan documents. During the year, the ministry worked to meet the following specific *New Era* commitments.

Comprehensive groundwater and drinking water legislation:

Legislation was enacted in 2001 (but not proclaimed) to ensure protection of drinking water in a manner that responds to the needs of provincial residents and achieves the highest performance standards. Groundwater legislation was passed at the same time. In September 2001, a nine-member Drinking Water Review Panel was appointed to review the *Drinking Water Protection Act* and new groundwater provisions. The Panel released its final report on February 13, 2002 and recommended the Act be brought into force together with a relatively limited number of amendments. The Government is reviewing the Panel's recommendations.

As well, $1.5 million was added to the ministry's budget during 2001/02 for water quality monitoring and protection of field capability for dealing with drinking water source quality. A similar amount will be provided for this work in 2002/03.

Lifting the blanket moratorium on grizzly bear hunting:

On July 16, 2001, the blanket moratorium was replaced with regional moratoriums, providing for a limited hunt in September 2001 and spring 2002. A scientific review panel (the "Grizzly Bear Scientific Panel") was appointed to review and comment on grizzly harvest management practices. The panel released an interim report on February 8, 2002 and will present its final report in December 2002.

Opposing the Sumas II power project:

In August, the Washington State Energy Facility Site Evaluation Council granted British Columbia's request for intervenor status in hearings for this proposed power plant, which would affect air quality and public health in the Fraser Valley. The ministry worked with legal counsel in presenting British Columbia's case.

Ensuring decisions on new parks are made in public:

Cabinet approval for proceeding on a federal-provincial agreement and funding for a new national park in the Gulf Islands was approved in the government's first Open Cabinet session on June 27, 2001.

Proposed Living Rivers Act:

The government committed to pass a *Living Rivers Act* to protect and improve the province's river systems with scientifically-based standards for watershed management, enhancements to fish habitat, and a ten-year program to correct past damage.

Working with the Ministry of Sustainable Resource Management, Water, Land and Air Protection has begun to analyze and review options and prepare recommendations for public review during 2002, targeting implementation of an integrated strategy by 2004. The Ministry of Water, Land and Air Protection has created the Living Rivers Section within the Biodiversity Branch to lead the initiative.

Streamlining the Forest Practices Code:

The government committed to streamline the Forest Practices Code to establish a workable, results-based Code, with tough penalties for non-compliance. The ministry worked closely with the Ministries of Forests and Sustainable Resource Management on Forest Practices Code revisions and consultations.

Other New Era environmental commitments:

During the year, the government reconfirmed its commitment to maintain legislation banning bulk exports of water from British Columbia, and to ensure mining or logging is not permitted in parks.

2. Priorities from the Premier's Letter

Legislative Review:

The ministry began working during the year to identify areas for regulatory improvement to ensure high environmental standards, improve effectiveness, ensure clarity and simplicity, provide opportunities for innovation and partnership, move to performance-based regulation, reduce regulations and increase public openness and accountability.

The government's Deregulation Initiative, led by the Deregulation Office in the Ministry of Competition, Science and Enterprise, was launched to fulfill the *New Era* commitment to reduce red tape and regulation by one third within three years.

The first step towards implementing the Deregulation Initiative was the completion by all government ministries of a count of the total number of regulatory requirements contained in the government's legislation, regulations, and ministry policies used to interpret legislation and regulations. The Ministry of Water, Land and Air Protection determined that its baseline regulatory count as of June 5, 2001 was 10,212 requirements.

The Ministry has prepared a set of three-year deregulation plans to initiate the process of reducing the regulatory counts in selected program areas, in order to achieve the goal of reducing the Ministry's baseline regulatory count by one third by 2004/2005.

Providing support to the Ministry of Sustainable Resource Management:

The mandates of the ministries of Water, Land and Air Protection and of Sustainable Resource management are complementary: both support the government's vision of a thriving economy that maintains high environmental standards and respects the strong environmental values of British Columbians.

The ministries are linked across a number of programs that require ongoing coordination (e.g., information systems planning; data management coordination and sharing), as well as a number of projects that required coordinated staff effort across both ministries (e.g., Results-based Forest Practices Code).

Protect and Preserve Burns Bog:

Consistent with the *New Era* Commitment, the province has been in negotiations to purchase Burns Bog. Details of the negotiations cannot be released as both parties are operating under a confidentiality agreement. The province is supported in its negotiations by the federal government, the Greater Vancouver Regional District and the Corporation of Delta.

Appointment of a Chief Scientist:

The ministry is shifting to integrated program delivery based on the best available science and an ecosystem-based approach. To achieve this challenging directive, the ministry considered the appointment of a Chief Scientist to advise government on matters relating to the availability, reliability and credibility of scientific information. The ministry established an internal Science Committee to promote extensive discussion of, and timely access to, invaluable scientific information. The ministry is also preparing recommendations for the establishment of an external science panel which will advise and strengthen connections with post-secondary institutions around the province.

Environmental Excellence in Government:

This renamed Sustainability in Government Initiative is championed by the ministry but the activities are undertaken by many agencies across government. Sustainability in Government activities in 2001-2002 were focused on achieving results in the areas of Green Buildings, the vehicle fleet, and promotion of eco-efficiency to the general public through a website.

The Government of British Columbia achieved a Gold Level Reporter status award this year for its Voluntary Challenge Progress Report. This report outlined the government's target and achievements in reducing greenhouse gas emissions from government operations, government funded infrastructure and the general public for fiscal year 2000/01. Specific initiatives for 2001/02 included the delivery of greener government vehicles (40% of the lease order, including 60 hybrid vehicles), and BCBC energy management activities for buildings (including operator training and positioning to undertake future retrofits).

Forums/conferences were also held during 2001/02 to promote increased market share for environmentally responsible products and ventures. The green venture forum created the opportunity for investors, venture capitalists and interested businesses to participate in information sessions, discussions and a trade fair to encourage expansion of businesses based on principles of sustainability.

Review of water legislation:

See above under *New Era* Commitments.

Improvement plan for threatened airsheds:

The Ministry has in place a number of initiatives to protect air quality and work with specific communities, including Canada, the Greater Vancouver Regional District (GVRD), and the United States on transboundary airshed planning and management. During the year, work proceeded on the development of an airshed planning framework for the province, which will encompass renewed agreements with Canada and local governments on monitoring, and the actions needed to identify critical airsheds and ensure their protection.

3. Other Ministry Priorities

Climate Change:

The ministry, as lead, and the Ministry of Energy and Mines, were actively involved in climate change discussions with the federal government and other provinces. In February, the minister hosted a joint meeting of the federal, provincial and territorial energy and environment ministers, dealing with the key policy choices that need to be made before a federal decision can be made on ratification of the Kyoto Protocol.

The province is committed to taking effective provincial emission reduction actions that maximize both economic and environmental benefits to British Columbia over the long term. Work during 2001/02 focused on economic analyses of the implications of the Kyoto Protocol and the development of policy options as part of a national process for meeting Canada's target emission reduction. As well, a study of the impacts of climate change in British Columbia over the past century was undertaken. *Indicators of Climate Change for British Columbia 2002* was released in March 2002, based on analysis of historical natural data carried out for the ministry by the Canadian Institute for Climate Studies at the University of Victoria.

Pulp Mill AOX Regulation:

The ministry prepared a two-part action plan: (Phase 1) review the requirement that AOX (Adsorbable Organic Halides, including chlorinated organic) discharges from British Columbia pulp mills be reduced to zero, and (Phase 2) develop a comprehensive regulation for pulp mill discharges. In Phase 1, an independent scientific advisory panel was appointed in December 2001 to carry out the review, and had formulated its recommendations by March 2002.

The Phase 1 goal is to have an amended regulation that has a scientifically based standard for AOX discharges from pulp mills, similar to other North American jurisdictions. Phase 2 has become part of a larger comprehensive review of the *Waste Management Act*, positioning to make more substantive changes in the ministry's legislative requirements of, and relationships with, many of its key stakeholders, including the pulp and paper industry.

Re-assessment of the implementation of Streamside Protection Directives:

A review by an external stakeholder advisory committee was undertaken to determine what revisions to the regulation, guidelines or implementation strategy might be necessary to ensure protection of fish while respecting private property interests. The goal is an effective, local government driven, results-based approach to fish protection that is harmonized with federal government requirements and supported by stakeholders and the public.

Regulation of Contaminated Sites:

The ministry has been reviewing the regulation of contaminated sites and, with stakeholder input, considering the amendments needed to ensure greater efficiency, effectiveness and use of the best available science. Second stage amendments updating the process for site cleanups were introduced in February 2002, and amendments to the regulation of contaminated mine sites were passed in May 2002. An external panel of experts supported by ministry staff was appointed to develop a new contaminated sites regime by mid-2003.

One hundred and thirty-nine (139) sites were reported cleaned up to provincial human health and environmental protection standards of the Contaminated Sites Regulation in 2001. This brings the total to 1,332 sites reported cleaned up since the ministry started collecting data in 1988.

Ministry process improvements:

As part of the ministry's Core Review, a number of areas were considered for more detailed examination. These included harmonizing federal/provincial environmental processes, public electronic reporting, an electronic permitting process, cost recovery and fees for use of recreational opportunities, and market based pricing. A number of reviews were completed within the fiscal year (e.g., streamlined ministerial correspondence process) or are more substantive and still underway (e.g., a new model for fish, wildlife and habitat recreational services, including a review of fees and licences).

New model for fish, wildlife and habitat recreation services:

As a result of ministry efforts during the Core Review process, the Recreation Stewardship Panel was named in spring 2002. This panel of experts will make recommendations for a new management model for angling, hatcheries, hunting and park recreation that connects fees with services and opportunities and allows greater public involvement in decision making. The ministry's goal is to improve freshwater angling, hunting, wildlife viewing and park recreation services and benefits in British Columbia in a way that creates new opportunities for everyone — local communities, tourism operators, small businesses, First Nations and the public.

Biodiversity Strategy:

The ministry is taking the lead in developing a biodiversity strategy for British Columbia that will serve as a common framework for guiding and coordinating government, private sector and public activities to conserve biodiversity, including actions necessary to protect species at risk.

New Era Commitments in 2002/03-2004/05 Service Plan

The following *New Era* Commitments have been included in the Ministry's 2002/03 - 2004/05 Service Plan:

- **Acquire and protect Burns Bog** — The ministry is working, through the Ministry of Finance, with landowners on purchase negotiations.
- **Living Rivers Strategy** — The ministry is working with the Ministry of Sustainable Resource Management on practical programs to improve British Columbia's river systems with scientifically-based standards for watershed management, and on developing a common vision and effective partnerships for management, enhancement and restoration of fish habitat.
- **Comprehensive groundwater legislation** — The ministry is working with the Ministry of Health Planning on an action plan to improve the protection of drinking water from the source to the tap.
- **Oppose Sumas II power project** — The ministry is continuing work with legal counsel in presenting British Columbia's case to Washington State.
- **Maintain ban on bulk water exports** — The government has publicly committed to maintain the legislation establishing the ban.
- **Streamline Forest Practices Code** — The ministry is working closely with the Ministries of Forests and Sustainable Resource Management on Forest Practices Code revisions.

Performance Reporting

Although a good part of the ministry's focus over the fiscal year has been on reorganizing its operations and its relationships with some of its key partners, the ministry has also made solid progress in achieving its strategic goals and objectives.

The three core business areas of the Ministry of Water, Land and Air Protection are: Environmental Protection of air, water and land quality; Environmental Stewardship of biodiversity, including wildlife, fish and protected areas; and Park and Wildlife Recreation management, including hunting, angling, park recreation and wildlife viewing. The following section highlights key performance and environmental indicators related to the ministry's three core business areas. They provide the reader with an insight into the state of the environment and an important snapshot of the extent over 2001-2002 to which the ministry has been working towards enhancing both environmental integrity and recreational opportunities for all British Columbians.

Collectively, these measures help ensure that ministry plans and decisions are based on an increasingly holistic view of performance. In some cases, targets for the following performance measures have been met, in others, progress continues to be made on longer term initiatives, and on still others, progress towards a stated target fell somewhat short, with reasons explained in the accompanying text.

Many of the outcome performance measures, however, represent long-term results relating to the ministry mandate that are beyond the sole control of the ministry. Achieving these outcomes will require stewardship efforts across provincial ministries and by other governments and businesses, as well as significant public behavioural changes.

The *Ministry of Water, Land and Air Protection Service Plan: 2002/03 - 2004/05* provides a more complete picture of the ministry's public performance commitments for the next three years. Over the next three years, the ministry will work progressively and conscientiously towards strengthening the link between mandate, performance targets and public accountability.

Performance Highlights

GOAL — ENVIRONMENTAL PROTECTION — Protect human health and safety by ensuring clean and safe water, land and air.

Performance Measures	2001/2002 Target	2001/2002 Actual	Variance
Number of waste discharges relying solely on permit authorizations (see page 22).	2,500	3,132	-632; comprehensive review of WMA underway
Municipal/industrial sectors for which the ministry has established clear, up-to-date performance expectations (see page 22).	New composting, aquaculture and AOX standards in place by March 31, 2002	Organic matter recycling regulation in place and environmental standards for aquaculture industry developed; AOX standards anticipated Fall 2002	Awaiting final review of proposed AOX standards
Percentage of communities where airshed plans are initiated or underway (outside GVRD, and with known air quality problems) (see page 23).	30% (eight) of communities	30% (eight) of communities	Target met
Number of $PM_{2.5}$ monitors deployed (see page 24).	Additional four monitors per year	Eight monitors deployed	Target exceeded by four monitors
Percentage of communities meeting the provincial air quality objective for PM_{10} of 50 ug/m^3 (24-hr average) (see page 25).	55% of communities (based on 1998-2000 average)	No change (based on incomplete data)	Target met
Greenhouse gas emissions from government operations (see page 26).	Reduce by 16% between 2000 and 2005	Estimated on target	None
Number of aquifer protection projects supported (see page 27).	Three aquifer projects completed by 2001	Partially achieved through completion of two draft plans and other related initiatives	Projects are led by communities and are in various stages of development
Number of aquifers identified and classified (see page 28).	50 aquifers	113 aquifers	Target exceeded
Testing and trends for nitrates in groundwater (see page 28).	Maintain monitoring capacity in three critical areas	Annual monitoring completed in three critical areas	Target met
Number of water quality guidelines (new or updated) developed (see page 29).	Five new or updated guidelines completed by 2001	Four guidelines	One guideline under target
Percentage of Pest Management Plans in place compared to total pesticide use authorizations (see page 31).	At least 3%	6.9%	Target exceeded

Performance Measures	2001/2002 Target	2001/2002 Actual	Variance
Percentage of scrap tires diverted from municipal landfills (see page 31).	81% or 3.4 million	81%	Target met
Number of toxic spill emergency response plans tested (Ministry plans, Industrial plans, Response agency plans) (see page 32).	Ministry plans: one approved, zero tested	Ministry plans: zero approved, zero tested	Under target by one plan
	Industrial plans: two tested	Industrial plans: three tested	Target exceeded by one plan
	Response agency plans: two of three tested	Response agency plans: two of three tested	Target met

GOAL — ENVIRONMENTAL STEWARDSHIP — Maintain and restore the natural diversity of ecosystems, and fish and wildlife species and their habitat.

Performance Measures	2001/2002 Target	2001/2002 Actual	Variance
Percentage of new protected areas that are Order-in-Council or legislation ready within two years of areas' announcement (see page 33).	100% over two years	51 of 82 in first year	On target
Number and percentage of protected areas with approved management direction (see page 34).	130 protected areas (16%)	226 protected areas (28%)	Target exceeded
Number of responses to known significant threats in protected areas (see page 35).	130 responses or actions in protected areas	191 projects responding to known significant threats in protected areas completed or initiated	Increased focus on conservation management allowed more projects to be undertaken
Number of monitoring projects carried out on forestry, range and other land use activities (see page 37).	Seven projects carried out	Seven projects at various stages	Target primarily met
Number of established Wildlife Habitat Areas (see page 37).	50 established	65 established	Target exceeded
Number of Wildlife Management Areas (WMAs) proposed and ready for Order-in-Council stage (see page 38).	An additional two WMAs prepared	Three new WMAs designated; two additions to existing WMAs	Target exceeded

Performance Measures	2001/2002 Target	2001/2002 Actual	Variance
Number of watershed-based fish sustainability plans initiated and completed for key watersheds (see page 40)	— Rivers Inlet Level II plan completed by 2001. — 1 government-led regional (basin) scale and 1 watershed-level plan initiated	— Rivers Inlet Level II still in the initiation stage — 1 government-led regional (basin) scale and 11 watershed-level plans initiated	— Initiation rather than completed — Target exceeded
Number of species and ecosystems at risk covered by recovery plans (see page 42)	An additional 10 species and ecosystems covered	0 complete; 4 near completion	-10; recovery efforts underway

GOAL — PARK AND WILDLIFE RECREATION — Provide park and wildlife recreational services and opportunities to British Columbians and visitors.

Performance Measures	2001/2002 Target	2001/2002 Actual	Variance
Angler participation rate (see page 43).	Maintain 292,600 resident and 73,600 non-resident licences (1995-1999 5-year average)	297,339 resident and 82,312 non-resident angling licences sold	Target exceeded
Number of hunter days (see page 44).	990,000 resident and 58,000 non-resident hunter days	1.05M resident and 53,000 non-resident hunter days	+ 60,000 resident and - 5,000 non-resident hunter days
Number of recorded visits to BC Parks (see page 45).	23 million visitors	23.3 million visitors	+ 300,000
Park visitor satisfaction with campground facilities and services (see page 45).	75% (based on five campground management items)	82%	Exceeded target by 7%

ENVIRONMENTAL PROTECTION

Goal: Protect human health and safety by ensuring clean and safe water, land and air.

The performance measures and targets for this goal are primarily organized below by the related ministry objectives: Clean Air and Climate Change, Clean Water, Land Protection, and Environmental Emergencies.

Authorizations for Waste Discharges

The ministry is shifting from a longstanding prescriptive individual site permitting approach for prohibiting and controlling industrial and municipal waste discharges towards clear environmental standards established by regulations with a province-wide sector scope. The *Waste Management Act* (WMA) is one of the major pieces of ministry legislation, and accounts for a range of environmental standards, permits and other authorizations required to be adhered to by numerous industry sectors across the province.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of waste discharges relying solely on permit authorizations.	2,500	3,132	-632; comprehensive review of WMA underway

Performance measure and target

Reduce ministry's use of permit authorizations from 3,400 in 1998 to 2,500 by March 2002.

Progress during 2001/02

- The 3,132 present permits under the WMA represent: 736 air, 1,453 effluent, 696 refuse, and 247 special waste permits.
- Since its high of 3,400 permits in 1998, the ministry has been able to reduce the need for 268 authorizations.
- The ministry is presently undertaking a larger and more comprehensive review of the *Waste Management Act*. Once completed, it is anticipated that the 2001/2002 target will be easily met, if not surpassed.

Clear municipal/industrial sector environmental standards

The ministry is changing its business methods to reduce its own costs, reduce the costs incurred by those who must meet environmental standards, reduce conflicts and litigation, eliminate service backlogs and focus efforts in areas where there is the greatest risk to the environment. Providing clear and up-to-date environmental standards for the municipal and industrial sectors across the province establishes greater certainty and a more efficient relationship between the ministry and some of its key stakeholders. Three examples of this shift in ministry efforts are new composting, aquaculture and AOX standards for the province.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Municipal/industrial sectors for which the ministry has established clear, up-to-date performance expectations.	New composting, aquaculture and AOX standards in place by March 31, 2002	Organic matter recycling regulation in place and environmental standards for aquaculture industry developed; AOX standards anticipated Fall 2002	Awaiting final review of proposed AOX standards

Performance measure and target

New composting, aquaculture and AOX standards in place by March 31, 2002.

Progress during 2001/02

- Composting — In February 2002, a new Organic Matter Recycling Regulation was introduced, strengthening human health standards, eliminating costly permitting processes, and making British Columbia the first jurisdiction in North America to limit the use of recycled organic materials in drinking water watersheds.
- Pulp Mills — In December 2001, an independent scientific advisory panel was appointed to review the requirement for AOX discharges at British Columbia pulp mills to be reduced to zero. The independent scientific advisory panel submitted its final report in March 2002.
- Aquaculture Industry — In August 2001, a preliminary review of seabed monitoring data in British Columbia's salmon aquaculture industry, including an inventory of waste management measures from 94 salmon farms, was released as a further step toward the development of new aquaculture waste regulations for fish farms.

Objective — Clean Air and Climate Change — Limit air pollution and contribute to meeting global atmospheric objectives.

Airshed Planning

Airsheds are geographical areas in which air quality is a function of the same sources, weather and topography. Where airsheds contain a complex mix of sources falling under different levels of government, airshed planning can be a valuable air management tool. Airshed planning takes a multi-pollutant, multi-source approach to addressing local air quality issues by engaging all relevant stakeholders, including multiple levels of government, industry, health authorities, academia and the public.

Improving air quality in threatened airsheds is a key strategic priority for this ministry. The province is a strong advocate of airshed planning, and has been working in partnership with communities such as Prince George, Williams Lake, Quesnel, Kelowna, the Bulkley Valley, Golden, the Greater Vancouver Regional District and the Fraser Valley Regional District.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Percentage of communities where airshed plans are initiated or underway (outside GVRD, and with known air quality problems)	30% (eight) of communities	30% (eight) of communities	Target met

Performance measure and target

30% of communities (eight) where airshed plans are initiated or underway (outside GVRD, and with known air quality problems).

Progress during 2001/02

- The target is being met, with a total of 30% of communities (eight) having airshed plans that are initiated or underway (outside of the GVRD, and with known air quality problems).
- The North Okanagan Regional District voted in February to immediately begin an airshed planning process, based on the model used in Kelowna.
- Provincial efforts are currently focused on improving understanding of $PM_{2.5}$ sources and levels, and developing a framework for airshed planning that can be applied to threatened airsheds throughout the province, and to helping keep clean areas clean.

Particulate Matter ($PM_{2.5}$ and PM_{10}) Monitoring

Particulate matter (or PM) is the most important outdoor air contaminant in British Columbia from a human health perspective. Exposure to particles smaller than ten µm (PM_{10}) can affect breathing, aggravate existing respiratory and cardiovascular disease, alter the body's defence systems and damage lung tissue, contributing to cancer and premature death. Those particles smaller than 2.5 µm are believed to pose the greatest health risk. Even very low concentrations of PM_{10} and $PM_{2.5}$ are linked to health impacts.

PM originates from a variety of natural and human-related sources such as factories, power plants, cars, construction activity, fires and windblown dust. It is also formed in the atmosphere from the reactions involving various gases. The provincial air quality objective for PM_{10} is 50 µg/m^3 (24h avg.). The Canada-wide Standard (CWS) for $PM_{2.5}$ is 30 µg/m^3 (24h avg.), based on the annual 98th percentile value averaged over three consecutive years. Currently, most PM monitoring in the province is for PM_{10}. However, the provincial network is being expanded to include more $PM_{2.5}$ monitors.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of $PM_{2.5}$ monitors deployed	Additional four monitors per year	Eight monitors deployed	Target exceeded by four monitors

Performance measure and target

An additional four $PM_{2.5}$ monitors deployed, building on 2000/01 baseline of 17 (13 provincial, three Greater Vancouver Regional District (GVRD), one permittee).

Progress during 2001/02

- A further eight (8) $PM_{2.5}$ monitors have been deployed since the baseline was established, meeting the 2002/03 target. Of the eight additional monitors, three are provincial, two are GVRD, and three are permittee.
- While British Columbia's network of PM_{10} air quality monitors provides relatively good coverage of populated areas, there are relatively few $PM_{2.5}$ air quality monitoring stations collecting data to determine whether British Columbia will meet the Canada Wide Standard for $PM_{2.5}$, and to help determine the extent of the threat to health and visibility in many British Columbia airsheds.
- As well as establishing additional stations, work has been done to evaluate the relationship between $PM_{2.5}$ and PM_{10}. Specialized studies have been proposed to better understand the chemical composition of $PM_{2.5}$, and to use this information to identify major contributors to ambient levels. Techniques to identify such sources are currently being examined.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Percentage of communities meeting the provincial air quality objective for PM_{10} of 50 $\mu g/m^3$ (24-hr average)	55% of communities (based on 1998-2000 average)	No change (based on incomplete data)	Target met

Performance measure and target

55% of communities meeting the provincial air quality objective for PM_{10} of 50 $\mu g/m^3$ (24-hr average), based on 1998–2000 average).

Progress during 2001/02

- PM_{10} data for 2001 are not yet fully available for all monitoring sites in the province. Outstanding data are not expected to be available for the preparation of this report.
- Where 2001 data are available, there has been no increase in the number of stations failing to meet the PM_{10} air quality objective of 50 $\mu g/m^3$ (24-hr average).
- Although the PM_{10} air quality objective lies within the range of concentrations where health impacts are expected, achievement of the objective will result in air quality improvements and a reduction in PM_{10}-related health risks in those communities where exceedances are currently observed. Achievement of the 55% target will help to prevent further degradation of air quality. Given the greater health concerns over $PM_{2.5}$, a shift to a $PM_{2.5}$-based performance measure may be necessary in the future, as more $PM_{2.5}$ data becomes available.
- Provincial efforts are currently focused on improving understanding of $PM_{2.5}$ sources and levels, and developing a framework for airshed planning that can be applied to threatened airsheds throughout the province, and to helping keep clean areas clean.
- CWS implementation strategies will be considered under the threatened airsheds initiative.
- The province continues to support airshed planning activities in a number of British Columbia communities such as the Greater Vancouver Regional District, the Fraser Valley Regional District, Prince George, Quesnel, Williams Lake, Kelowna and Golden.
- British Columbia remains a national leader in cleaner transportation issues, such as the updating of AirCare and the introduction of a new fuel tax exemption for diesel alternatives in 2001.

Greenhouse gas emissions from government operations

The British Columbia provincial government is one of British Columbia's largest enterprises in operational terms. In the fiscal year ending March 31, 2001, greenhouse gas emissions from government buildings and vehicles (excluding Crown corporations) were estimated at 131,825 tonnes of carbon dioxide equivalent. This represented 0.2% of total emissions in the Province of British Columbia.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Greenhouse gas emissions from government operations.	Reduce by 16% between 2000 and 2005	Estimated on target	None

Performance measure and target

Reduce by 16% between 2000 and 2005 greenhouse gas emissions from government operations.

Progress during 2001/02

- Significant steps continue to be taken on many fronts to reduce greenhouse gas emissions. These included:
  - 40% of lease orders for the 2001 government fleet were for alternative fuel vehicles or "greener" vehicles. This includes 60 hybrids, which at the time was the largest order by any organization in Canada.
  - A 4% reduction in government building energy use was achieved through increased energy efficiency measures.
  - Seven photovoltaic systems, one solar heating system and one micro-hydro project were installed to replace diesel generation in parks throughout the province. A photovoltaic system was installed in one government office building.
- These and other activities are anticipated to reduce greenhouse gas emissions to 113,000 tonnes CO_2EQ (equivalent) per year by 2005, approximately 6% below 1990 and 16% below 2000 levels.

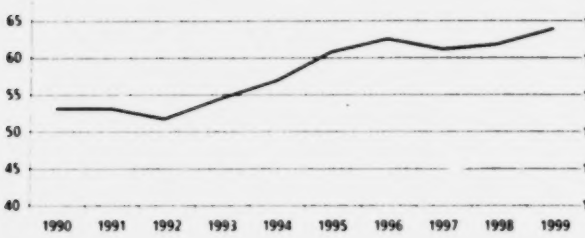
Environmental Trends

Gases such as carbon dioxide and methane are called greenhouse gases (GHGs). As they build up in the atmosphere, they act like the transparent roof of a greenhouse, which allows in sunlight while trapping the heat.

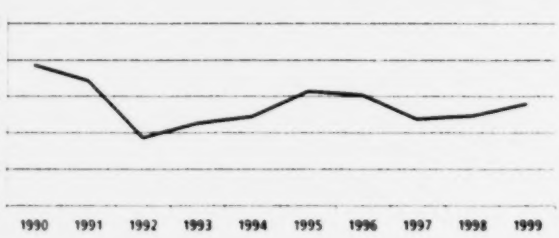
In 1999, total GHG emissions were 63.5 megatonnes of carbon dioxide equivalent, an increase of 10.8 megatonnes or 20% since 1990. In British Columbia, per capita greenhouse gas emissions decreased by 6.3% between 1990 and 1999. During this time, the population increased by 29%, from 3.1 million to just over 4 million.

The British Columbia government is identifying actions that increase the use of clean, renewable energy, increase energy efficiency, and build on actions already in place.

Total Greenhouse Gas Emissions (megatonnes of CO_2 EQ)



Per Capital Greenhouse Gas Emissions (tonnes of CO_2 EQ)



Source: Ministry of Water, Land and Air Protection, 2001.

Objective — Clean Water — Ensure safe, high-quality drinking water and reduce effluent discharges that impact water quality.

Aquifer and Well Protection Plans

Approximately 750,000 people in British Columbia depend on groundwater sources for their drinking water supplies. Most usable groundwater comes from aquifers — natural water-bearing geologic formations or subsurface reservoirs. Technical advisory assistance from the ministry was provided for the development of aquifer and well protection plans led by local governments or local community stewardship groups interested in measures to safeguard their community drinking water sources.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of aquifer protection projects supported.	Three aquifer projects completed by 2001	Partially achieved through completion of two draft plans and other related initiatives	Projects are led by communities and are in various stages of development

Performance measure and target

Complete three aquifer or well protection plans in partnership with communities by March 2002.

Progress during 2001/02

The target was partially achieved through:

- Development of a Draft Groundwater Protection Strategy for Hornby Island prepared by an Advisory Groundwater Protection Committee based on Hornby Island.

- Advisory assistance to Mill Bay Waterworks District in development of their Water Quality Monitoring Program, and their Well and Water Source Protection Plan.
- Assisting 27 communities involved in establishing road signs to raise awareness of aquifers and the importance of their local drinking water supplies dependent on groundwater.
- Advisory assistance to Hagen Creek-Kennes Watershed Project in completion of their Community Groundwater Monitoring Program.

Major Aquifer Inventory

An inventory of major developed aquifers was continued over the year to identify, delineate and classify each aquifer's level of groundwater use and vulnerability to contamination. The classification provides a framework for prioritizing aquifer protection, and implementing management initiatives, particularly for drinking water supplies. The principal areas for aquifer classification included the Kootenay Region, Okanagan, Sunshine Coast and Peace River areas.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of aquifers identified and classified.	50 aquifers	113 aquifers	Target exceeded

Performance measure and target

Inventory and classify 50 additional aquifers by March 2002.

Progress during 2001/02

- The target was exceeded with 113 aquifers classified and mapped. The level of activity was increased by engaging a contractor for the Kootenay Region.
- Total number of aquifers in inventory extended to 551.

Testing and Trends for Nitrates in Groundwater

Monitoring of groundwater quality was continued in major aquifers that have shown elevated levels of nitrate. Nitrates are derived mainly from animal wastes, chemical fertilizers and septic wastes that have been applied to the land or disposed of in these areas. Changes in nitrate levels found in groundwater are important indicators to determine the effectiveness of measures adopted, such as best management practices, to reduce nitrate loading to groundwater.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Testing and trends for nitrates in groundwater	Maintain monitoring capacity in three critical areas	Annual monitoring completed in three critical areas	Target met

Performance measure and target

- Continue annual monitoring in three aquifer areas near the communities of Abbotsford, Grand Forks and Osoyoos.

Progress during 2001/02

- Monitoring completed in three areas with assistance of community stewardship groups at Grand Forks and Osoyoos, and in partnership with Environment Canada at Abbotsford.

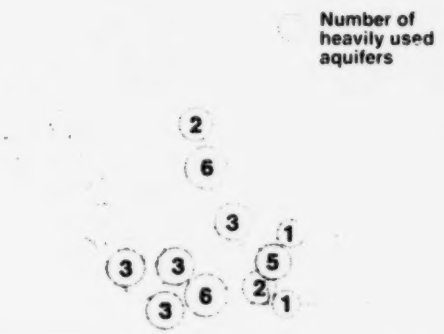
Environmental Trends

Groundwater is a major source of water for drinking and crop irrigation in British Columbia.

Heavily used aquifers are those where the extraction rate is high relative to the natural recharge rate. This designation is applied to 35 aquifers (up from 17 in 1996). Most are in the Fraser Valley or Southern Interior and on the East Coast of Vancouver Island.

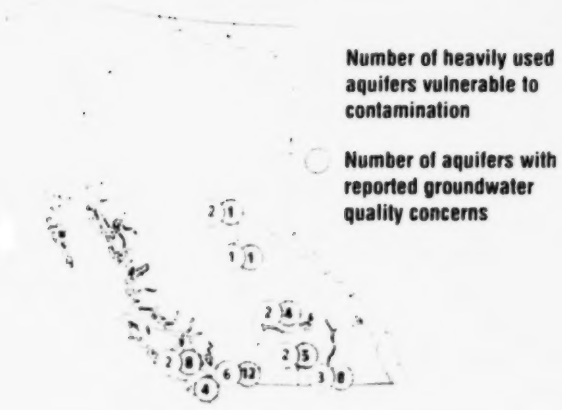
Heavy use puts water quality at risk. Continued aquifer classification mapping will likely identify additional heavily used aquifers.

Number of Heavily Used Aquifers



Source: Ministry of Water, Land and Air Protection, Water Protection Branch, Groundwater Section 2002.

Vulnerable Aquifers


Number of heavily used aquifers vulnerable to contamination
Number of aquifers with reported groundwater quality concerns

Source: Ministry of Water, Land and Air Protection, Water Protection Branch, Groundwater Section 2002.

Environmental Trends

Eighteen of British Columbia's 35 heavily used aquifers are considered highly vulnerable to contamination (up from 11 in 1996). Many of these supply drinking water to large communities, such as Langley, Abbotsford and Prince George.

Specific sites within 43 aquifers have been reported with health-related water quality concerns. The majority are in the Southern Interior, on the Gulf Islands and the east coast of Vancouver Island.

Water Quality Guidelines

The 1981 Auditor General's Report indicated that the Ministry did not have a means to determine whether it was performing its primary function of protecting the environment from pollution sources. Water quality guidelines are developed to provide that ability. The guidelines are developed to protect six primary water uses (aquatic life, wildlife, irrigation water, livestock water, drinking water supply and recreation) and are based upon existing scientific information.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of water quality guidelines (new or updated) developed	Five new or updated guidelines completed by 2001	Four guidelines	One guideline under target

Performance measure and target

Complete five new or updated guidelines by March 2002.

Progress during 2001/02

The target was partially achieved through:

- Development of guidelines for arsenic based upon a guideline developed by the Canadian Council of Ministers of the Environment.
- Development of guidelines for MTBE and temperature through the use of contractors to perform the primary scientific research.
- Development of guidelines for chlorate entirely by staff members.
- The one guideline scheduled that was not completed was formally approved by the ministry in early April 2002 and will be reported in the summary for that year

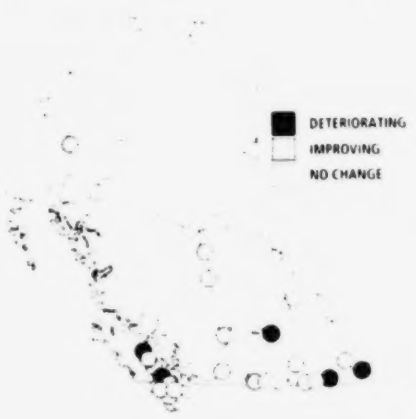
Environmental Trends

Protecting drinking water quality and maintaining the integrity of aquatic ecosystems are important environmental issues in British Columbia.

Results of trend assessments at 53 water quality sampling stations for 47 waterbodies are shown on the adjacent map. Most of the trends are based on ten years of data collected from the 1980s to the 1990s.

The government plans to improve drinking water source protection through the amended *Drinking Water Protection Act* and groundwater legislation.

Water Quality



Source: Ministry of Water, Land and Air Protection, 2001

Objective — Land Protection — Reduce/remove toxins and wastes that contaminate land.

Pest Management Plans

The ministry continued to promote the development of Pest Management Plans to replace permits required for major pest management projects such as in forestry vegetation management, utility rights of way, noxious weed control and mosquito control. A Pest Management Plan must describe how pests will be controlled using integrated pest management, including: prevention, identification, monitoring, using thresholds in making decisions, alternative (non-chemical) controls, and evaluating the effects of the controls applied. Pest Management Plans are in effect for a five year period instead of the three years for the permits that they replace, and may cover a wider geographic area, thus reducing the number of authorizations required overall.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Percentage of Pest Management Plans in place compared to total pesticide use authorizations.	At least 3%	6.9%	Target exceeded

Performance measure and target

At least three percent of Pest Management Plans in place compared to total pesticide use authorizations by March 31, 2002.

Progress during 2001/02

- The target was exceeded with the approval of an additional 16 Pest Management Plans, bringing the total Pest Management Plans in effect for the year to 30, compared to a total of 437 pesticide authorizations in effect.

Waste recycling — scrap tire stewardship program

Product and packaging stewardship programs focus on the collection of various used or leftover products and packages to prevent them from reaching landfills, incinerators or the general environment. Examples of product stewardship programs include: scrap tires and lead-acid batteries (1991); used lubricating oil (1992); paint residuals (1994); pharmaceuticals, solvents, flammables, pesticides and gasoline residuals (1997); and beverage containers (1998).

The scrap tire program (FIRST — Financial Incentives for Recycling Scrap Tires) provides financial incentives to transporters and processors to encourage the collection of scrap tires and their processing into products or fuel. The program is administered under contract by a management firm, and funded by a $3 per tire levy on new tire sales.

Performance Measure	2001/2002 —Target	2001/2002 Actual	Variance
Percentage of scrap tires diverted from municipal landfills.	81% or 3.4 million	81%	Target met

Performance measure and target

81% or 3.4 million scrap tires diverted from municipal landfills.

Progress during 2001/02

- The scrap tire program met its forecast by collecting 3,408,852 passenger tire equivalents for the period April 1, 2001 to March 31, 2002.

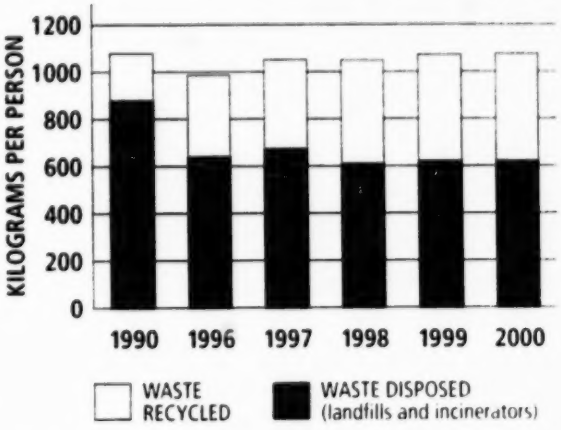
Environmental Trends

It is estimated that British Columbians generated 1,070 kg of solid waste per person in 2000. Of this, 618 kg required disposal. This represents a 30% reduction since 1990 in waste disposed of per person.

The amount of waste disposed to landfills and incinerators decreased from 2.9 to 2.5 million tonnes between 1990 and 2000. During the same period, the population increased by 32%.

Product stewardship initiatives involve industry and consumers taking responsibility for waste from products they produce or use.

Municipal Solid Waste Disposed of and Recycled



Source: Ministry of Water, Land and Air Protection, 2002
Environmental Management Branch
BC Municipal Solid Waste Tracking Report 2002

Objective — Environmental Emergencies — Readiness to respond to high-risk environmental emergencies.

Environmental Emergencies

Approximately 4,000 toxic spills occur in British Columbia each year. These spills may affect public safety, property and/or the environment. The ministry's role is to ensure that persons responsible for the spill have the capability to clean up the spill and minimize the impact on people, land and the environment. The ministry maintains the capability to respond to high-risk spills or to spills where the persons responsible for the spill do not have the capability to cleanup the spill. The ministry is working with industry sectors (e.g., chemical producers, rail) and response agencies (e.g., Environment Canada, Burrard Clean Operations, Town of Osoyoos) to develop and test toxic spill emergency response plans and capabilities. The ministry is developing provincial response plans in the event of a large spill.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of toxic spill emergency response plans tested (Ministry plans, Industrial plans, Response agency plans)	Ministry plans: one approved, zero tested	Ministry plans: zero approved, zero tested	Under target by one plan
	Industrial plans: two tested	Industrial plans: three tested	Target exceeded by one plan
	Response agency plans: two of three tested	Response agency plans: two of three tested	Target met

Performance measure and target

Approve one ministry toxic spill emergency response plan by March 2002.

Test two Industrial toxic spill emergency response plans by March 2002.

Test two Response agency toxic spill emergency response plans by March 2002.

Progress during 2001/02

The targets were partially achieved through:

- The ministry toxic spill emergency response plan has been approved at a technical level.
- The ministry participated in industry emergency response exercises lead by Imperial Oil, Burrard Clean Operations, and the Area C Oil Spill Cooperative.

ENVIRONMENTAL STEWARDSHIP

Goal: Maintain and restore the natural diversity of ecosystems, and fish and wildlife species and their habitat.

The performance measures and targets for this goal are organized below by the related ministry objectives: Habitat Conservation, Wildlife and Wildlife Fish, Species at Risk and Sustainable Development.

Objective — Habitat Conservation — Manage conservation in parks and protected areas system.

Mapping and designating protected areas

The ministry is responsible for mapping and legally designating protected areas once government has announced or approved an addition to the protected area system, with a target to do so within two years of announcement. This effort ensures that legal designations will proceed in a timely manner, including putting into place complete and accurate statusing and mapping standards.

The complexities of land-use planning commitments can, and do, impact the timeliness of some designations. The designations of some protected areas may be withheld or postponed due to current land use rights (e.g., mineral tenures, petroleum titles, grazing, private land ownership or other resource use and management concerns). Every effort is made to eventually resolve such issues so that protected area designation can proceed. Some of these areas may not be able to proceed to protected area status but will be afforded protection through the actions and careful considerations of other agencies such as the Ministry of Forests or Regional Districts.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Percentage of new protected areas that are Order-in-Council or legislation ready within two years of areas' announcement.	100% over two years	51 of 82 in first year	On target

Performance measure and target

Legally designate new protected areas within two years of announcing them.

Progress during 2001/2002

- Fifty-one (51) protected areas (new or additions to existing protected areas) were designated.
- Eighty-two (82) new protected area sites were announced by government in the preceding two years, 51 (not the same as above) of which were designated by the end of the fiscal year 2001/2002; leaving 31 areas to designate in 2002/2003.
- Eight (8) other protected areas were overdue and not ready for designation within two years of their announcement by government:
  - — five (5) were in the process over 2001/2002 of being made ready for designation; and
  - — three (3) had unresolved land use issues that preclude designation as protected areas.
- The ministry anticipates completing those active outstanding protected areas from 2001/2002 (31 + 5) in 2002/2003.

Management Planning for Protected Areas

The Environmental Stewardship Division's management planning program consists of management plans and management direction statements that provide a long-term vision and broad strategies, as well as guidance for the day-to-day stewardship, management and development of protected areas.

Management direction statements describe significant protected area values and management issues, and recommend priority objectives, strategies and actions to respond to these issues. They provide direction where a more extensive protected area management plan is not required or feasible at the time. Management plans, in contrast, provide a more comprehensive statement of objectives and strategies for the conservation, development, management and interpretation of the protected area, and normally include substantive public involvement in their preparation.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number and percentage of protected areas with approved management direction	130 protected areas (16%)	226 protected areas (28%)	Target exceeded

Performance measure and target

Approved management direction in place for 130 (16%) protected areas by March 31, 2002.

Progress during 2001/02

- The ministry exceeded the 2001/02 target of having approved management direction in place for 130 protected areas.
- At year's end, a total of 226 protected areas (28 percent of the total number of protected areas) had approved management direction in place through either a management plan or management direction statement.
- In 2001/02, six management plans covering eight parks, and seven management direction statements were approved.
- At fiscal year end, one management plan, one management plan amendment and two management direction statements were awaiting approval, and approximately 150 management plans and management direction statements were in progress.
- The discrepancy between the performance target and result is primarily due to the review of all management plans or equivalent documents more than ten years old to determine their adequacy in providing management direction. Seventy-seven "old" plans were validated through this process. (Note, the number of areas with approved plans rather than the number of approved plans is now being counted.)

Responses to known significant threats in protected areas

Protected areas will continue to be the cornerstone of biodiversity protection in the province. Eight in ten British Columbians stated that conservation of natural values and processes was a very important benefit of having provincial parks. Conservation of these areas is also key to meeting the provincial objective of environmental stewardship. This performance measure reflects the conservation management process of acquiring natural values information, identifying risks and threats to these values, and implementing strategies and projects to reduce these threats.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of responses to known significant threats in protected areas	130 responses or actions in protected areas	191 projects responding to known significant threats in protected areas completed or initiated	Increased focus on conservation management allowed more projects to be undertaken

Performance measure and target

Initiate or complete 130 projects responding to known significant threats in protected areas.

Progress during 2001/2002

The target was partially achieved through:

- A funding shift that enhanced conservation management funding for protected areas allowing more than the expected number of projects to be initiated or completed.
- Undertaking some region/district or province-wide projects. These included:
  - — Conservation risk assessments for all protected areas in each district/region.
  - — District/region wide conservation plans such as invasive weed management plans.
- Prioritizing projects based on the highest conservation values and highest risk.
- Utilizing partners and stewardship groups to assist in implementing projects.

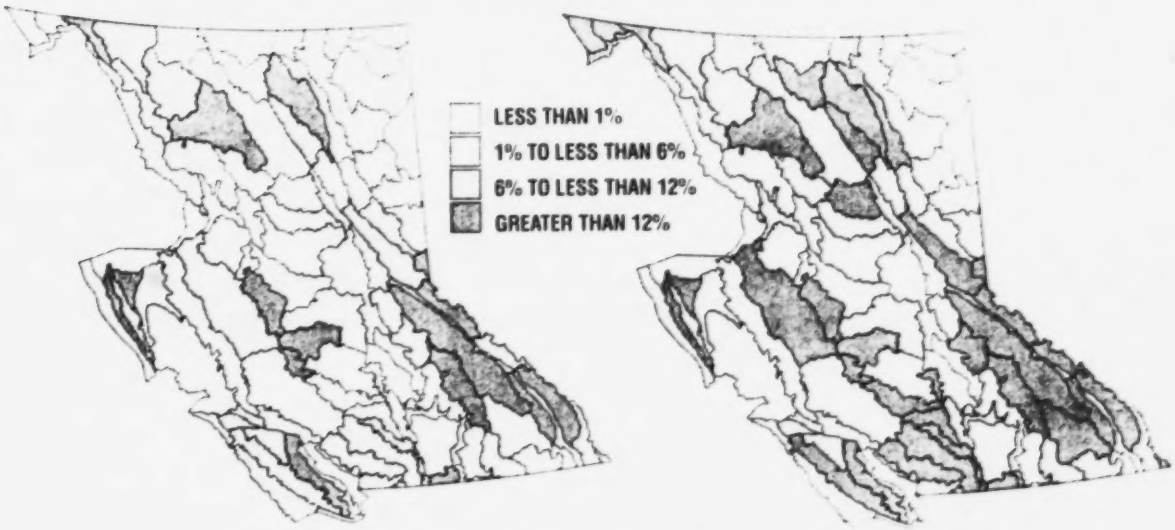
[Note — data is based on the program's third quarter report.]

Environmental Trends

The protected areas network is an integral part of British Columbia's strategy to protect the province's biological and cultural heritage. This is becoming increasingly important as British Columbia has a high number of species "at risk" relative to other provinces and territories in Canada.

One objective of the Protected Areas Strategy is to increase the protection of ecosystem diversity. The amount of protection will vary with each ecosection.

Percentage of Ecosystems Protected



Source: Ministry of Sustainable Resource Management, Decision Support Services, 2002

Objective — Wildlife and Wild Fish — Manage and protect fish, wildlife and their habitat.

Monitoring on forestry, range and other land use activities

The ministry is implementing the stewardship model of conservation and responsible resource development. The stewardship model is based on the ministry working with private and other government partners to agree on and achieve high standards for conservation. The ministry monitors, or establishes monitoring partnerships, and reports on the level of success in achieving these preset conservation standards. The monitoring assists in ensuring that the conservation objectives are met, but also provides invaluable information for reviewing the standards themselves.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of monitoring projects carried out on forestry, range and other land use activities.	Seven projects carried out	Seven projects at various stages	Target primarily met

Performance measure and target

7 monitoring projects carried out on forestry, range and other land use activities.

Progress during 2001/02

- The items below represent the monitoring projects undertaken over 2001/2002, but in various stages of completion as of March 31, 2002:

  1. Headquarters — Wildlife Tree Evaluation Project done in partnership with MoF.
  2. Headquarters — Grazing Monitoring draft Report undertaken jointly with Ministry of Forests, but also included Ministry of Agriculture, Food and Fisheries and the federal Department of Fisheries and Oceans.
  3. Peace Region — Oil and Gas Compliance Review, undertaken jointly with the Oil and Gas Commission.
  4. Vancouver Island Region — draft French Creek Watershed Study.
  5. Vancouver Island Region — draft Audit of Selected Polygons of the Sensitive Ecosystems Inventory of East Vancouver Island and Gulf Islands.
  6. Vancouver Island Region — draft Ministry of Transportation subdivision referral (or Preliminary Layout Approval) audit.
  7. Vancouver Island Region — monitoring review of Marbled Murrelet habitat conservation in Clayoquot Sound.

Wildlife Habitat Areas

WHAs are mapped areas of Crown Land containing critical habitat, such as breeding, feeding and denning habitat, crucial to identified wildlife. WHAs help protect species and plant communities at risk by specifying mandatory practices, called general wildlife measures (GWMs) that occur within them. The GWMs include measures to protect species at risk from development while recognizing forestry's social and economic benefits. The designation of WHAs is one of British Columbia's major mechanisms for providing protection for the habitat of threatened and endangered species required under the National Accord for the Protection of Species at Risk.

Identified Wildlife are species that are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (i.e., endangered, threatened or vulnerable). Thirty-six species and four plant communities are currently eligible wildlife for wildlife habitat area protection in British Columbia.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of established Wildlife Habitat Areas	50 established	65 established	Target exceeded

Performance measure and target

Fifty (50) Wildlife Habitat Areas (WHAs) established by March 31, 2002.

Progress during 2001/2002

- There were 65 approved WHAs as of March 31, 2002, representing a total area of 9,938 hectares (average 153 hectares).
- These 65 WHAs will protect Grizzly Bears, Marbled Murrelets, Queen Charlotte Goshawks, Tailed Frogs, Mountain Beavers, Bighorn Sheep, Prairie Falcons, Lewis' Woodpeckers, Brewer's sparrow, White-headed woodpecker, Ancient Murrelet, Cassin's auklet and rare plant communities in various locations throughout the Province.
- Into fiscal 2002, there were 25 more WHAs ready for a decision by the Chief Forester and MWLAP Deputy Minister, and an additional 175 other WHAs in various stages of completion.
- Initial work to determine how to meet Service Plan commitment to greater industry involvement in identification of WHAs.

Wildlife Management Areas

Wildlife Management Areas (WMAs) are a designation under the provincial *Wildlife Act*. They are usually established where conservation and management measures are considered essential to the continued well being of resident or migratory wildlife that are of regional, national, or global significance. Conservation of wildlife, fish and their habitats is a priority in WMAs but other land uses may be permitted by the Regional Manager of Environmental Stewardship.

Activities that may occur within a specific WMA are usually outlined in a management plan developed in consultation with First Nations, stakeholders and the general public. Wildlife Management Areas can be used to implement wildlife and habitat objectives established under a strategic land use plan and sometimes serve as buffer zones or linkages for core protected areas.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of Wildlife Management Areas (WMAs) proposed and ready for Order in Council stage.	An additional two WMAs prepared	Three new WMAs designated, two additions to existing WMAs	Target exceeded

Performance measure and target

Prepare an additional two Wildlife Management Area proposals.

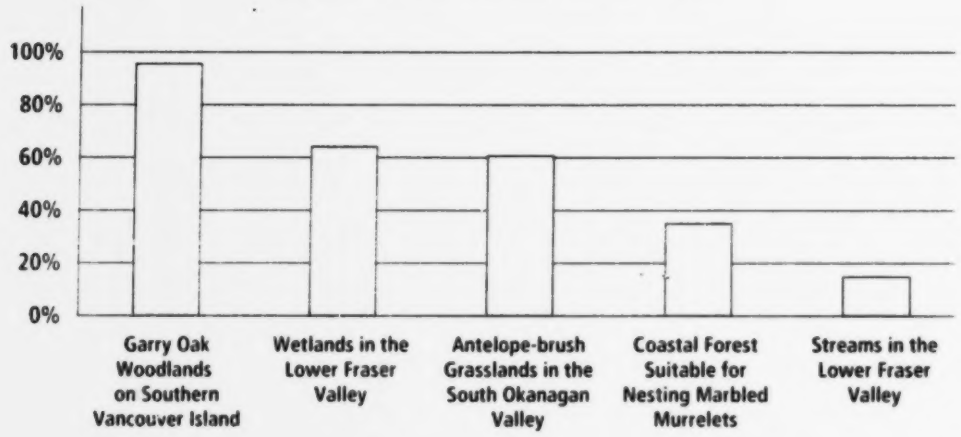
Progress during 2001/2002

- Three new WMAs were designated including the Todagin WMA (122,787 ha) in the Skeena region and the Cluxewe WMA (137 ha) and Lazo Marsh-North East Comox WMA (127 ha) on Vancouver Island.
- Two additions were made to existing WMAs including a 156 ha addition to the Parksville-Qualicum Beach WMA on Vancouver Island and a 90 ha addition to the Pitt-Addington Marsh WMA in the Lower Mainland.
- Progress in 2001/2002 brought the total number of WMAs to 22, covering an area of just over 231,000 hectares.

Environmental Trends

Maintaining viable areas of different habitat types is a key component of protecting biodiversity.

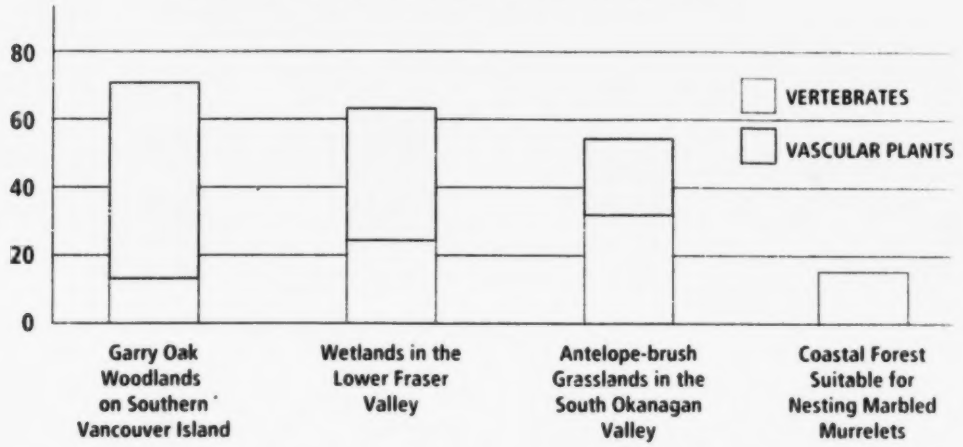
Percentage Lost of Selected Habitat Types



Source: Gary Oak Woodlands — Ministry of Sustainable Resource Management, 2002; Antelope brush Grasslands — Ministry of Water, Land, and Air Protection 2002; Wetlands in LFV O Boyle, *et al.*, 1997; Streams in the Lower Fraser Valley — Fraser River Action Plan, Fisheries and Oceans Canada, 1998; Coastal forest suitable for nesting Marbled Murrelets — Demarchi and Button, 2000.

The loss or degradation of habitat can endanger the species that depend on it and ultimately reduce regional and provincial biodiversity.

Number of Species at Risk in Selected Habitats



Source: Gary Oak Woodlands — Gary Oak Ecosystems Recovery Teams, 2002; other habitat types — Ministry of Sustainable Resource Management and Conservation Data Centre, 2002.

Watershed Fish Sustainability Plans

The Watershed Fish Sustainability Plan process was jointly developed with the federal Department of Fisheries and Oceans, concerned stakeholders and industry to allow for the setting of priorities for the management and restoration of fish and fish habitat in watersheds.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of watershed-based fish sustainability plans initiated and completed for key watersheds	— Rivers Inlet Level II plan completed by 2001. — 1 government-led regional (basin) scale and 1 watershed-level plan initiated	— Rivers Inlet Level II still in the initiation stage — 1 government-led regional (basin) scale and 11 watershed-level plans initiated	— Initiation rather than completed — Target exceeded

Performance measure and target

Complete Rivers Inlet Level II watershed-based fish sustainability plan and initiate 1 government-led regional (basin) scale and 1 watershed-level plan.

Progress during 2001/02

- Rivers Inlet Level II Project is being led by DFO, as is predominantly a sockeye project. Present status partially achieved through DFO leading the initiation of the Stage II watershed plan.
- Exceeded projected progress with 11 other Stage II watershed plans being initiated. This was due to sustained stakeholder enthusiasm for the process, and increased emphasis by DFO to use the tool for strategic watershed based fish plans.

- Ministry initiated development of Living Rivers Strategy to provide framework for private and public sector and civil society actions to protect and restore watersheds.

Environmental Trends

Fish comprise one of the highest proportion (about 1/3) of threatened or endangered species in British Columbia.

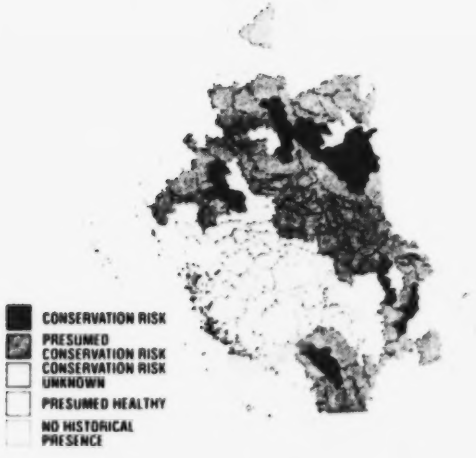
Steelhead can be used as an indicator of environmental quality over broad areas of coastal British Columbia because they are widely distributed and recent studies have shown they are sensitive to environmental degradation.

Recovery initiatives directed at species-at-risk and at entire watersheds are being developed and implemented through partnerships that include all levels of government, First Nations, stakeholders and industry. The Living Rivers strategy will provide a science-based program to set priorities and co-ordinate watershed management activities, including a 10-year restoration program.

Conservation Risk to Steelhead Stocks

Source: Ministry of Water, Land and Air Protection, BC Fisheries, 2001.

Conservation Risk to Bull Trout



Source: Ministry of Water, Land and Air Protection, 2002

Environmental Trends

Bull trout is used as an indicator because it is widely distributed in British Columbia and known to be sensitive to habitat changes, therefore its status may be representative of the health of the watershed.

Bull trout are the only fish identified under the Forest Practices Code as "Identified Wildlife" requiring special management considerations. In British Columbia, Bull Trout are classified as Special Concern, and stringent fishing regulations are in place.

Objective — Species at Risk — Identify, protect and restore species at risk and their habitat.

Species and Ecosystems at Risk

Under the proposed federal endangered species legislation and the National Accord for the Protection of Species at Risk in Canada, there is a requirement to produce a recovery plan for an endangered species within one year of designation and a recovery plan for a threatened species within two years of designation. Recovery plans describe the steps that need to be taken to improve a species' status from that of 'species-at-risk'.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of species and ecosystems at risk covered by recovery plans	An additional 10 species and ecosystems covered	0 complete; 4 near completion	-10; recovery efforts underway

Performance measure and target

An additional ten species and ecosystems at risk covered by recovery plans.

Progress during 2001/2002

- The draft strategy for Garry Oak Ecosystems was completed and submitted for technical review — this strategy has been endorsed by over 25 regional governments, municipalities and organizations. Draft strategies for American Badger, Leopard Frog and Oregon Spotted Frog were also completed to the review stage.
- Plans covering 38 other species at risk have been initiated.
- Despite lack of fully completed plans, recovery efforts outlined in draft plans have begun for 2 ecosystems and 9 other species.
- Initial work to determine how to meet Service Plan commitment to greater industry involvement in recovery planning.

Environmental Trend

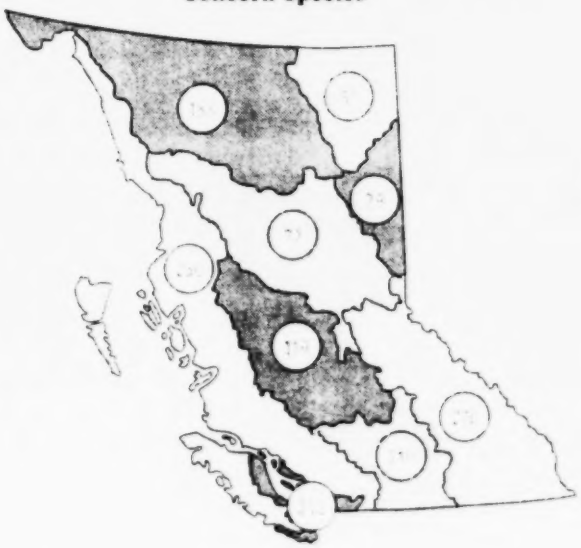
Biodiversity represents the biological portion of natural capital on which economic and social well-being depends. This is particularly true in British Columbia, where important aspects of our economy draw directly from our natural capital.

The proportion of species at risk is used internationally as an indicator of the status of biodiversity. Global concern for biodiversity stems from evidence that the current rate of extinctions is higher than would be expected naturally.

The Southern Interior ecoprovince has the largest number of species at risk (319), followed by the Southern Interior Mountains (276), Coast and Mountains (256), and the Georgia Depression (253).

The largest threat to species at risk in British Columbia is habitat loss. Urban development, agriculture, timber management, livestock grazing and water development result in the destruction, modification and fragmentation of natural habitats upon which many species at risk depend.

Number of Threatened, Endangered or Special Concern Species



Source: Ministry of Sustainable Resource Management, Conservation Data Centre, 2001

PARK AND WILDLIFE RECREATION

Goal: Provide park and wildlife recreational services and opportunities to British Columbians and visitors.

The performance measures and targets for this goal are organized below by the related ministry objectives: Hunting, Angling and Wildlife Viewing Opportunities, and Parks Recreation.

Objective — Hunting, Angling and Wildlife Viewing Opportunities — Manage/allocate fish and wildlife for angling, hunting and viewing, and provide wilderness recreation opportunities.

Provincial Angling

The 'angler participation rate' measure provides an indication of both the continuing interest that British Columbians have in their natural resources and the desirability of the Province as a natural resource tourist destination. Stable licence fees, favourable foreign exchange rates and the annual Family Fishing Weekend promotional events are likely elements in meeting the stated performance targets.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Angler participation rate.	Maintain 292,600 resident and 73,600 non-resident licences (1995-1999 5 year average)	297,339 resident and 82,312 non resident angling licences sold	Target exceeded

Performance measure and target:

292,600 resident and 73,600 non-resident angling licences sold in fiscal year 2001/2002.

Progress during 2001/2002:

- 297,339 resident and 82,312 non-resident angling licences sold.
- Angling licence sales have been maintained above the target participation rate for both resident and non-resident anglers. This increase is counter to the general downward trend of angler participation over the past decade.

Provincial Hunting

Maintaining the diversity and abundance of native species and their habitat while providing for the use and enjoyment of wildlife is the primary objective of the provincial wildlife program. Each year, carefully reviewed and revised regulations are introduced to help balance conservation of biodiversity and sustainable wildlife management with some of the most outstanding hunting opportunities the world has to offer. Estimates of hunter days provide a measure of the amount of time provincial residents and visitors to the province spend in the field.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of hunter days.	990,000 resident and 58,000 non-resident hunter days	1.05M resident and 53,000 non resident hunter days	+ 60,000 resident and - 5,000 non resident hunter days

Performance measure and target

990,000 resident and 58,000 non-resident hunter days for 2001.

Progress during 2001/2002

- In 2001, 93,296 provincial residents and 5,869 visitors to the province purchased licences to hunt in British Columbia. Consistent with regulations, this resulted in 1.05 million resident and 53,000 non-resident hunter days.
- The amount of effort by resident hunters was more robust than expected with deer, elk and moose being the most popular species.
- The amount of effort by non-resident hunters was slightly below the forecast. This might be explained, at least in part, by the temporary moratorium on grizzly bear hunting that closed the spring season. However, hunting effort by non-residents for other species remained strong.

Objective — Parks Recreation — Provide, through private operators, camping and day use in Parks.

Visitors to BC Parks

British Columbians enjoy an outstanding variety of family vacation opportunities and other seasonal and year round activities in natural settings. Access to well managed recreation areas has major economic benefits from tourism and ecotourism. The ministry's stewardship role encourages visitor appreciation of these special places. Our trails, camping facilities, day use areas, canoe circuits, back country huts and boating facilities offer access to visitors of all ages and skills.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Number of recorded visits to BC Parks.	23 million visitors	23.3 million visitors	+ 300,000

Performance measure and target

Twenty-three million recorded visits to BC Parks.

Progress during 2001/2002

- Visitor attendance surpassed the year's target — 23,327,006.

Visitor Satisfaction with Campground Facilities and Services

BC Parks is committed to providing visitors with a safe, enjoyable park visit. Since 1985, BC Parks has conducted an annual satisfaction survey to provide a systematic way of capturing park visitors' views about the quality of services provided in provincial parks and to identify areas for service and facility improvements. The results from the survey are used to identify priorities for service improvements. The visitor satisfaction index is the provincial average rating by park visitors of five services. Changes in the index are used to measure how well these services are being provided from year to year and to determine the effectiveness of service improvements.

Performance Measure	2001/2002 Target	2001/2002 Actual	Variance
Park visitor satisfaction with campground facilities and services.	75%, (based on five campground management items)	82%	Exceeded target by 7%

Performance measure and target

Seventy-five per cent park visitor satisfaction.

Progress during 2001/2002

- The target was exceeded in the past three years: 82 per cent positive response in 1999, 79 per cent in 2000 and 82 per cent in 2001.
- BC Parks continues to emphasize security and maintenance services to ensure park visitors have a safe and enjoyable park visit.

Report on Resources

2001/02 Resource Summary

Core Business Area	Estimated	Other Authorizations	Total	Actual	Variance
Operating Expenses ($000)[1]					
Environmental Protection[2]	32,512	233	32,745	38,186	(5,441)
Environmental Stewardship	67,492	0	67,492	60,419	7,073
Planning, Innovation and Enforcement	15,654	0	15,654	18,765	(3,111)
Operations Subtotal	**115,658**	**233**	**115,891**	**117,370**	**(1,479)**
Corporate Services	55,222	0	55,222	49,752	5,470
Ongoing Operating Expenditures	**170,880**	**233**	**171,113**	**167,122**	**3,991**
Britannia Mine Remediation	45,000	0	45,000	45,900	(900)
Total Operating Expenditures	**215,880**	**233**	**216,113**	**213,022**	**3,091**
Full-time Equivalents (FTEs)					
Total FTEs[3]	**1,317**	**0**	**1,317**	**1,346**	**(29)**
Ministry Capital (Expenditures) ($000)					
Total Capital Expenditures[4]	**15,506**	**4,723**	**20,229**	**20,229**	

[1] For the 01/02 Annual Report, the budget and expenditure information is reported by the 02/03 organizational structure (core business) as per the Annual Report Guidelines issued by Treasury Board Staff. The 01/02 Public Accounts will report this information by the sub-votes displayed in the 01/02 Estimates.

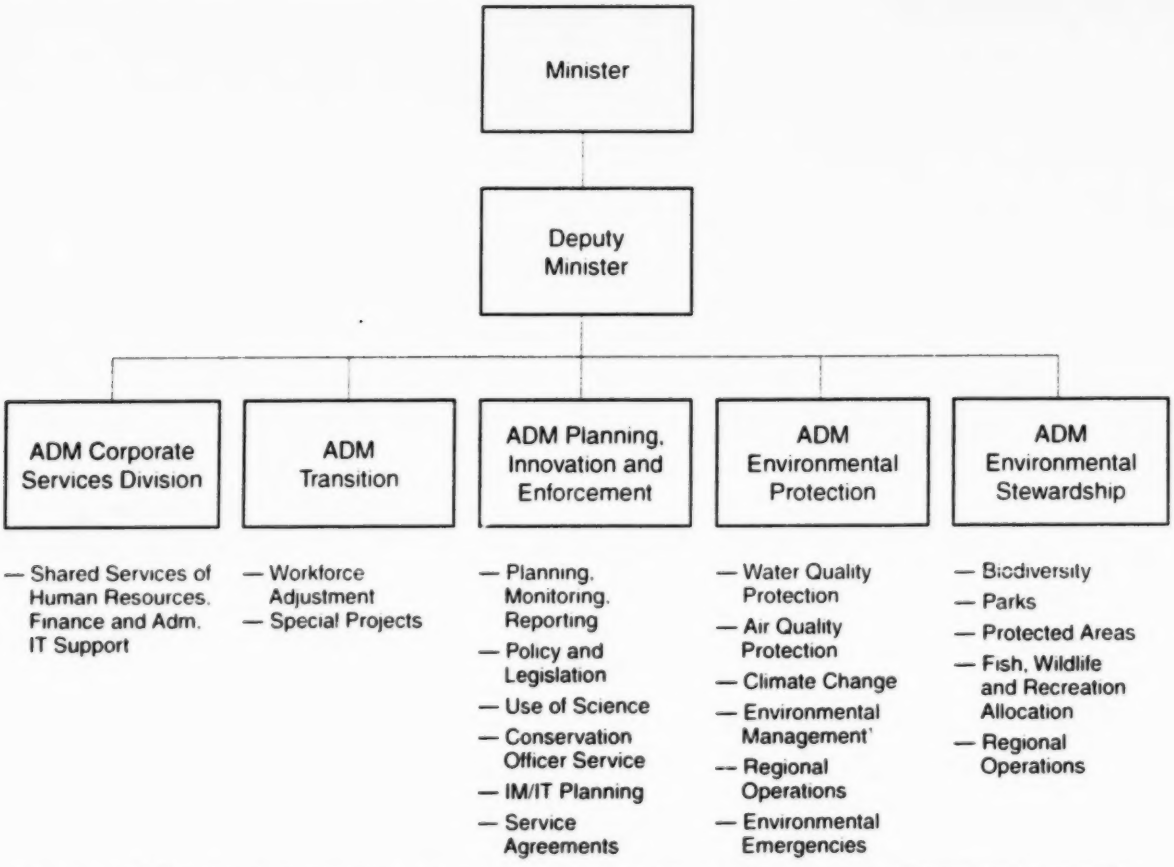
[2] Included in the Environmental Protection budget and expenditure information is spending related to the Sustainable Environment Fund (01/02 SEF Budget was $31.345 million).

[3] The actual FTE overrun is the result of support services staff not being transferred to the Ministry of Sustainable Resource Management during 2001/02.

[4] Corporate Services includes overhead amounts such as building occupancy charges, transitional and contingency funding, legal costs, telecommunications as well as funding for the Minister, Executive, Corporate Policy and Communication Offices. The majority of this funding has been allocated to the Divisions in 02/03 to more accurately capture the costs of doing business.

Appendix A

Ministry Organization Chart



' Environmental Management includes contaminated sites, product stewardship, toxics and special waste, industry and local government emissions and discharges

Appendix B

Legislation Administered by the Ministry[1]

The following provides an overview of the legislation, in alphabetical order, presently administered by the Ministry of Water, Land and Air Protection:

***Commercial River Rafting Safety Act*, R.S.B.C. 1996, c. 56**

This statute creates the position of the Registrar of Commercial River Rafting and provides for the registration and licensing of outfitters, guides and trip leaders, and the setting and enforcement of safety standards for commercial river rafting. The Act is presently administered by the Environmental Stewardship Division.

***Creston Valley Wildlife Act*, R.S.B.C. 1996, c. 84**

The Act places the Creston Valley Wildlife Management Area (CVWMA) in trust for the continued conservation, management and development of wildlife. The Act restricts mining and the disposition of land, and protects natural resources in the CVWMA. A Management Authority is established under the Act to regulate activity within the CVWMA. The Authority is subject to the Minister in the exercise of its functions, powers and duties under the Act. The Minister also has the capacity to declare a portion of the CVWMA a sanctuary area.

***Dike Maintenance Act*, R.S.B.C. 1996, c. 95**

This Act empowers the Inspector of Dikes to supervise all dikes and the operation of all dike authorities relative to the construction and maintenance of dikes.

***Drainage, Ditch and Dike Act*, R.S.B.C. 1996, c. 102**

This Act establishes a comprehensive scheme for the regulation and authorisation of ditches, watercourses, drainages, and dikes throughout the province.

***Ecological Reserve Act*, R.S.B.C. 1996, c. 103**

The *Ecological Reserve Act* is one of the key pieces of protected area legislation. The Act provides for the establishment and administration of ecological reserves in the province. New ecological reserves are created by order-in-council or through addition to the schedules of the *Protected Areas of British Columbia Act*. The Environmental Stewardship Division of the ministry administers the Act and the ecological reserves.

***Environment Management Act*, R.S.B.C. 1996, c. 118**

The *Environment Management Act* is one of the major enabling statutes for the Ministry. Under this Act, the Ministry is responsible for managing, protecting and enhancing the environment. Specific legislated responsibilities include:

- conducting research and investigative activities;
- developing environmental policies;
- disseminating information to the public about the environment;

[1] Acts are assigned by Order in Council issued under the *Constitution Act*. Administration of acts can change quickly. Readers are advised to confirm all information with appropriate legal research before relying upon it. Citations for all acts and regulations are to the most recent consolidated original versions; these are frequently amended and can change quickly and with little notice. Readers are strongly advised to confirm all information with appropriate legal research before relying upon it.

- preparing policies, strategies, objectives and standards for the protection and management of the environment;
- preparing environmental plans for: flood control, drainage, soil conservation, water resource management, fisheries and aquatic life management, wildlife management, waste management, and air management;
- requiring and regulating certain environmental assessments;
- issuing environmental protection orders;
- declaring environmental emergencies and allocating the required resources to control emergencies;
- recovering moneys spent during an emergency from the responsible party;
- enforcing the act; and
- establishing and operating the Environmental Appeal Board.

***Fish Protection Act*, S.B.C. 1997, c. 21 [section 12 only]**

Section 12 of the Act provides that the Lieutenant Governor in Council may, by regulation, establish policy directives regarding the protection and enhancement of riparian areas after consultation by the Minister with representatives of the Union of British Columbia Municipalities (UBCM).

***Industrial Operation Compensation Act*, R.S.B.C. 1996, c. 222**

The Act authorises the creation of compensation agreements, both private and in right of the Crown, between land-owners and an industry for any damage that may be caused to the land. The Act also establishes an arbitration process for the fixing of compensation.

***Land Title Act*, R.S.B.C. 1996, c. 250 [Sections 82 and 219 (insofar as it relates to the portfolio of the Minister) only (except section 219, subsections 3 (c), 11 (b) and 13]**

Section 82 of the Act authorises the Minister to designate flood plain areas. Section 219 (which, except for subsections 3(c), 11(b) and 13, is shared by the Ministries of WLAP, Sustainable Resource Management and Community, Aboriginal and Women's Services) authorizes the Minister to designate a person as a covenantee for the purposes of registering a covenant as to use and alienation against the title to land.

Each Minister may exercise the general s. 219 authority insofar as it relates to the portfolio of the Minister. In the case of the Ministry of WLAP, the authority relates to covenants concerning the right to flood. The Minister of SRM has the exclusive authority to administer subsections 3(c), 11(b) and 13 (which concern the power to designate covenantees other than the entities listed in subsection 3(a) and (b)).

***Ministry of Environment Act*, R.S.B.C. 1996, c. 299 [Except section 4(2)(d)]**

This Act established a Ministry of the public service of the province called the Ministry of Environment. The purposes and functions of the Ministry, the Minister and the Deputy Minister are specified in the act and include:

- administering matters relating to the environment;
- encouraging and maintaining an optimum quality environment;
- undertaking, commissioning and co-ordinating environmental studies;
- developing and sustaining public information and education programs;
- planning, designing, constructing, operating and maintaining all the structures necessary to carry out its mandate; and

- planning, co-ordinating, implementing and managing an environmental emergency or disaster program.

The Act also enables the Minister to acquire property and to enter into agreements with other governments with the approval of the Lieutenant Governor in Council. In addition, the Minister is required to submit an annual report to the Legislative Assembly.

This Act, with the exception of paragraph 4 (2) (d), is now the responsibility of the Ministry of Water, Land and Air Protection. Paragraph 4 (2) (d) is administered by the Ministry of Sustainable Resource Management.

***Ministry of Lands, Parks and Housing Act*, R.S.B.C. 1996, c. 307 [sections 3 (3), 5 (b) & 6 only]**

Sections currently assigned to the Ministry of Water, Land and Air Protection are:

- Section 3(3), which provides the Minister with the power to delegate to another person, subject to instructions, the function of signing a document. (This provision is shared with the Ministry of Sustainable Resource Management.)
- Section 5(b), which describes one of the functions of the Ministry as being to encourage outdoor recreation, establish parks and conserve the natural scenic and historic features of British Columbia.
- Section 6, which provides the Minister with the authority, for the purposes of the Act, to enter into agreements (subject to the approval of the Lieutenant Governor in Council) with the government of Canada, the government of another province, or with any other person or a municipality. (This provision is shared with the Ministry of Sustainable Resource Management.)

***Park Act*, R.S.B.C. 1996, c. 344**

This key protected areas statute provides for the establishment, classification and management of provincial parks and recreation areas dedicated to the preservation of the natural environment for the inspiration, use and enjoyment of the public. Parks are designated by Order in Council or by inclusion in the schedules of the *Protected Areas of British Columbia Act*.

***Park (Regional) Act*, R.S.B.C. 1996, c. 345**

This Act provides for the management of regional park systems by either Regional Districts or through regional park districts established under the Act. The operation of regional parks is governed by the Act. The Minister is responsible for:

- authorizing the acquisition of land for a regional park or trail by lease agreement, and allowing for a lease longer than five years;
- approving regional park bylaws;
- approving the transfer of a municipal park;
- allowing a regional park district to increase the maximum annual requisition for any municipality or electoral area within a regional park district; and
- approving official regional park plans.

***Pesticide Control Act*, R.S.B.C. 1996, c. 360**

The *Pesticide Control Act* establishes a regulatory regime for the control of pesticides. The Act governs the licensing and certification of pesticide sales, purchases and use in the Province. The Act also regulates the application, storage, disposition and transportation of pesticides. The Act also provides for appeals to the Environmental Appeal Board relating to decisions made under the authority of the Act.

***Protected Areas of British Columbia Act*, S.B.C. 2000, c. 17**

The *Protected Areas of British Columbia Act* represents a step in improving the legislative framework for the stewardship of the provincial protected areas system. The Act consolidates in its schedules all of the parks and ecological reserves for the purposes of the *Park Act* and the *Ecological Reserve Act*. The Act ensures that the boundaries of these protected areas can not be altered except by an act of the Legislature.

***Skagit Environmental Enhancement Act*, R.S.B.C. 1996, c. 426**

This Act gives corporate identity in British Columbia to the Skagit Environmental Endowment Commission. The Commission was established by a treaty with the United States (specifically, the City of Seattle) in 1984. The Act provides authority to the Commission to acquire and dispose of property. The fundamental purpose of the Act is to provide a mechanism in British Columbia for protecting biodiversity and administering the disposition of Crown land within an area set out by the Act in the Skagit Valley/ Ross Lake area. The Commission is responsible for the management of the Skagit Environmental Endowment Fund, which can be used by the Commission to acquire property for the purposes of the Act.

***Sustainable Environment Fund Act*, R.S.B.C. 1996, c. 445**

The Act establishes a fund from which the Minister may pay out money to reduce and manage solid, liquid, hazardous and atmospheric waste and for other environmental protection and environmental renewal initiatives.

***Waste Management Act*, R.S.B.C. 1996, c. 482**

The *Waste Management Act* is the main statute for the regulation of pollution and waste in the province, and is the primary responsibility of the Environmental Protection Division. Under the Act, the Ministry is responsible for overall waste management including:

- regulating the confinement, storage, disposal and transportation of special wastes;
- approving discharges requiring a permit;
- regulating spill prevention, reporting and response activities;
- issuing variance orders;
- regulating the production of regional solid, liquid and biomedical waste management plans;
- designating sewage control areas;
- delegating waste management powers to the Greater Vancouver Regional District and other eligible regions;
- enforcing the Act;
- regulating contaminated sites;
- issuing pollution abatement orders;

- developing and operating an appeal process to the Environmental Appeal Board.
- requiring the implementation of regional waste management plans.

***Water Protection Act*, R.S.B.C. 1996, c. 484**

This Act provides essential protection of British Columbia's water. Specifically, the Act:

- confirms ownership of surface water and groundwater in the province;
- prohibits removal of British Columbia's water in bulk supply to locations outside of the province;
- grandfathers existing bulk water removal rights; and
- prohibits large-scale transfers of water between the major watersheds of the province.

***Weather Modification Act*, R.S.B.C. 1996, c. 486**

This Act provides for the mandatory licensing of weather modification activities.

***Wildlife Act*, R.S.B.C. 1996, c. 488**

This Act provides a comprehensive scheme for the regulation of hunting, angling and the management of the Province's wildlife resources. The Act empowers the Ministry to acquire and administer land, improvements on land and timber, timber rights and other rights on private land. Specific responsibilities under the Act include:

- establishing and protecting wildlife management and critical wildlife areas;
- declaring and protecting endangered species;
- granting, suspending and cancelling hunting, angling, firearm, fur trading, trapping, outfitting and guiding licenses;
- prescribing hunter training courses and regulating the import and export of wildlife;
- enforcing the Act;
- establishing and enforcing required quotas; and
- establishing and operating appropriate appeal procedures to the Environmental Appeal Board.

Appendix C

Affiliated Agencies, Boards and Commissions

The Ministry of Water, Land and Air Protection works closely with the following government offices created to support provincial environmental initiatives.

Class C Provincial Park Boards

Class C parks are generally small parks located in outlying, unincorporated communities and are intended to service the local area. Park facilities are usually limited to picnic and playground areas though, in some cases, they also include campsites or community halls. Class C Park Boards are appointed by the minister to develop, manage and maintain their designated Class C park in accordance with the Park Act and Class "C" Park Regulations (B.C. Reg 227/67). A Park Board consists of not less than three and not more than seven members and, on appointment of its members, is a corporation. Each of the present 11 Class C Park Boards is required to submit an annual report to the Minister.

Co-Management Parks Boards

Since 1992, BC Parks has negotiated 12 memoranda of understanding with First Nations, establishing collaborative management as a mechanism to improve working relationships with First Nations and to recognise mutual interest in protected area management. Typically, a board is comprised of two First Nations representatives, one representative from local government or regional district and a BC Park's representative. Each agreement is based on the assertion of aboriginal rights to traditional resources and commits the parties to work together in a spirit of cooperation and respect, reflective of the government-to-government relationship. Once rights, obligations and protocols have been established, the primary function of each agreement is to create effective decision-making procedures. The Co-Management Parks Boards either provide advise to, or get directly involved in, one or more of the following: planning, management, maintenance and operation of provincial parks.

Creston Valley Wildlife Management Authority

The Creston Valley Wildlife Management Authority (CVWMA) is mandated by the *Creston Valley Wildlife Act*. The CVWMA manages a 7,000 hectare (17,000 acres) wildlife management area in the Creston Valley. The Authority is made up of a public member and a provincial government member appointed by the Minister and a federal government member. The area is largely marshland that was impacted by the dams of the Columbia River Treaty and now has to be actively managed to retain the marsh habitat that is vital to the wildlife populations in the area. The area is maintained largely by manipulating water levels (some are specified by the International Joint Commission) and actively managing vegetation. The CVWMA also has an information/education program and operates a 576 sq. meter (6,200 sq. ft.) visitor centre. The 2002/03 budget for the CVWMA is $530,000.

Environmental Appeal Board

The board is an independent quasi-judicial regulatory agency established under the *Environment Management Act* of 1981 (Section 11), with members appointed by the Lieutenant Governor in Council. The board hears appeals on decisions under the *Waste Management Act*, the *Wildlife Act*, the *Pesticide Control Act*, the *Water Act*, the *Commercial River Rafting Safety Act*, and the *Health Act* [Section 8(4)]). For 2001/2002, the board received approximately 130 appeals against 110 orders/permits/decisions.

Grizzly Bear Trust Fund Public Advisory Board

The fund is a legal trust established in 1995 as part of the Grizzly Bear Conservation Strategy. The Minister is the Trustee for the Fund and appoints the members to the Board, which must consist of between seven to 15 members. The Trustee must consult with the Advisory Board and the Director of Wildlife before spending money from the Fund or disposing of any property from the Fund. The Habitat Conservation Trust Fund Public Advisory Board is acting as the interim Board for this Advisory Board. Three projects expended $80,000 in 2001-2002.

Habitat Conservation Trust Fund Public Advisory Board

The HCTF is a statutory purpose trust established under the *Wildlife Act* (1996) that was originally a special account established in 1981 to assist in the preservation and enhancement of fish and wildlife and their habitats. The trust fund is a long term and highly successful partnership between users and the government. The board is made up of 12 to 15 members appointed by the trustee, the minister, from the general public. The board is responsible for reviewing habitat enhancement and acquisition proposals and making recommendations to the minister (trustee) regarding the management and administration of the fund. Funds come from surcharges on hunting, trapping, angling and guiding licences, court awards, donations, and sale of educational materials.

Skagit Environmental Endowment Commission

The Skagit Environmental Endowment Fund was established in 1984 as part of the Ross Lake/Seven Mile Reservoir Treaty between the United States and Canada (1984-2065). Powers of the Commission are legislated under the *Skagit Environmental Enhancement Act*. The purpose of the fund is to "conserve and protect wilderness and wildlife habitat" and to "enhance recreational opportunities" in the upper Skagit watershed above the Ross Dam south of Hope. The Commission administers the $6 million Skagit Environmental Endowment Fund and consists of 16 members, four full members and four alternates appointed by the Mayor of Seattle and four full members and four alternates appointed by the Premier on the recommendation of the Minister. The Commission reviews, selects and funds projects and informs both the Province of British Columbia and the Seattle City Council, as trustees and administrators of the fund, on expenditures from the Fund. The Commission funded 15 projects in 2001/02 with a total award value of US$291,000 (CA$446,000).